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Compton
Sept. 11. 1871



ILLUSTRATIONS
OF
BRITISH ENTOMOLOGY;

OR, A

Synopsis of Indigenous Insects:

CONTAINING

THEIR GENERIC AND SPECIFIC DISTINCTIONS;

WITH

AN ACCOUNT OF THEIR METAMORPHOSES, TIMES OF
APPEARANCE, LOCALITIES, FOOD, AND ECONOMY,
AS FAR AS PRACTICABLE.

BY JAMES FRANCIS STEPHENS, F.L.S.

MEMBER OF THE ZOOLOGICAL SOCIETY, ETC.

EMBELLISHED WITH COLOURED FIGURES OF THE RARER AND
MORE INTERESTING SPECIES.

MANDIBULATA.

VOL. II.



"In his tam parvis tamque ferē nullis quæ ratio! quanta vis! quam inextricabilis perfectio!"—*Plin.*

"Finis Creationis Telluris est gloria Dei, ex opera Naturæ, per Hominem solum."—*Linné.*

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ILLUSTRATIONS
OF
BRITISH ENTOMOLOGY.

COLEOPTERA.

Subsection I.—GEODEPHAGA.

FAMILY VI.—BEMBIDIIDÆ *mihi*.

THE remarkable structure of the palpi of those insects which are contained in this family obviously distinguishes them from the Harpalidæ, with which they are associated by Mr. MacLeay, though Knoch, Illiger, Latreille, Clairville, and others, have separated them from the genus Harpalus, by the names of Tachys, Elaphrus, Bembidion, Ocydromus, &c. respectively.

How far their separation as a family from the foregoing may be strictly in accordance with the natural grouping of the Chilopodomorphous insects, I shall not here attempt to show; but, as I believe, with Mr. MacLeay, that Nature forms a kind of circular series in the chain of affinities in which the quinary principle predominates, I shall merely observe that I agree with Mr. Kirby in opinion, that she does not *always* dispose her subjects, in *every* department, into fives, but that different numbers may possibly obtain in different groups; and why not more than five in the overwhelming family of Geodephaga, when we find the succeeding one of Hydradephaga so greatly deficient?

So far as the habits of the Geodephaga are capable of differing, the insects of this family are evidently dissimilar to the Harpalidæ, as, unlike those insects in general, they usually frequent low, damp, and marshy situations, while the typical Harpalidæ affect dry, gravelly, chalky, or hilly and mountainous districts; the less typical, as Trechus, &c. approximating to the Bembidiidæ and the latter to the Hydradephaga: again, the difference in the formation of the palpi cannot but strike the most incurious observer.

MANDIBULATA. VOL. II. 1ST JULY, 1828.

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The family and the genera into which I conceive that it should be divided may be known by the subjoined characters.

Palpi; external maxillary and labial, with the terminal joint very minute, subulated; the preceding generally much incrassated and clavate: *labrum* usually transverse: *mandibles* rather short, sometimes slender and porrect: *labium* quadrate: *mentum* emarginate. *Antennæ* filiform, longer than the thorax: *head* generally narrower than the *thorax*; the latter various in form: *elytra* oblong-ovate; rarely linear: *anterior tibiæ* emarginate: *anterior tarsi* of the males with one or more dilated joints, sometimes armed with a recurved claw beneath.

Coryus	{	lineare, valde depressum: <i>Antennæ</i> articulo 3-tio	{	4-to æquali:	64. LYMNÆUM.
				4-to longiori:	65. CILLENUM.
	{	subovale, convexum aut paulo depressum: <i>Thorax</i>	{	rotundatus, { integer:	66. TACHYS.
				emarginatus:	67. PHILOCHTHUS.
				acutus:	68. OCYS.
	{	transversus, haud truncato-cordatus, postice	{	5-to longiori:	69. PERYPHUS.
				valde acutis, prominulis:	
				antennæ articulis 3 et 4	
				5-to breviori:	70. NOTAPHUS.
				mediocres: { sub-	
	{	cordato-truncatus, angulis posticis	{	thorax	motus: 71. LOPHA.
				postice	sessilis: 72. TACHYPUS.
				Oculi	
	{	vix acutis, deflexis:	{	magni:	73. BEMBIDIUM.

GENUS LXIV.—LYMNÆUM * *mih.*

Palpi rather elongate; external maxillary with the basal joint minute, the second very long, cylindric, the third stout, subclavate, very pilose, shorter than the second, terminal very minute: labial with the terminal joint one-third as long as the preceding, which is much incrassated, ovate-truncate, and very pilose: *labrum* transverse, entire, slightly rounded anteriorly: *mandibles* short, obtuse, bent: *mentum* deeply emarginate, the emargination with an obtuse lobe. *Antennæ* slightly pubescent, with the basal joint naked, the third and fourth joints of equal length; the following elongate: *head* large, subovate: *thorax* cordate truncate: *elytra* nearly linear, greatly depressed: *anterior tarsi* of the males? with the two basal joints dilated; the antepenultimate with a curved spine beneath.

Lymnæum differs from *Cillenum* by the equal length of the third and fourth joints of the antennæ, and by the elongation of all the following, by having the labrum entire, and slightly produced in the centre, by the greater elongation of the palpi, and by their form and proportions; the terminal joint of the labial being much longer, and of the external maxillary considerably shorter, than in that genus; the third joint of the latter is much more robust, and

* *Asperm*, stagnum.



Pl. X.



C. M. Curtis del.

London, Pub. by J. E. Stephens, 1 Aug. 1828.

C. Wagsstaff sc.



the preceding cylindric; the armed antepenultimate joint of the tarsi (as in *Aepus*) is also an essential distinction, and the body is rather dilated.

Sp. 1. *mgropiceum*. PLATE X. f. 1.—*Nigro-piceum*, *antennis pedibusque paulò dilutioribus*, *elytris profundiuscule striatis*. (Long. corp. 2 lin.)

Ca. nigropiceus. Marsham.—*Ly. nigropiceum*. Steph. Catal. p. 36. No. 340.

Pitchy-black, with a tendency to ferruginous: head nearly castaneous, with two oblong longitudinal slightly rugose impressions in front, the posterior part impunctate: thorax deep pitchy ferruginous, depressed, with a strong longitudinal dorsal channel, terminating anteriorly in a bifid oblique line, which reaches to the anterior angle, leaving a triangular space, which is impunctate and of a paler hue than the rest of the surface, the base excepted, which is similar and a little punctate; the disc has a tinge of blue: elytra depressed, deep pitchy-black, striated, the striæ deep, but simple, the interstices convex, with two very strongly impressed dots on the fourth from the suture: legs ferruginous: antennæ, palpi, and labrum fulvous-red.

The only specimen I have seen of this remarkable insect I obtained from the Marshamian cabinet; its locality is unknown to me.

Sp. 2. *depressum*. *Piceo-nigrum*, *antennarum basi ore pedibusque pallide fulvis*, *elytris tenuè striatis*. (Long. corp. $1\frac{1}{4}$ lin.)

Ta.? *depressus*. Curtis, MSS. ?—*Ly. depressum*. Steph. Catal. p. 36. No. 341.

Pitchy-black; head with an arcuated impression on each side round the eyes: thorax greatly depressed, with a deep longitudinal line; the disc sparingly, and the base thickly, punctured: elytra also very flat, slightly clothed with short hairs, obsoletely striated, the striæ impunctate, the interstices depressed and sparingly punctulate: legs pale rufo-fulvous: antennæ with the basal joint fulvous; the two following tinged with the same, the rest dusky.

This insect appears to associate with the foregoing; but, having a single injured specimen only, I cannot decide with certainty on the point.

“Taken on Dudden Sands, near Broughton, Lancashire; not uncommon, but difficult to secure, on account of the wind.”—*J. C. Dale, Esq.*

GENUS LXV.—*CILLENUM*, Leach.

Palpi short; *external maxillary* with the second and third joints subclavate, the latter rather the longest and stoutest, and pilose, the terminal short and slender; *labial* with the terminal joint very minute and short, the preceding robust, subclavate, pilose: *labrum* transverse, concave anteriorly: *mandibles* elongate, slender, bent, and acute: *mentum* deeply notched, with an obtuse central lobe. *Antennæ* pubescent, the third joint considerably longer than the fourth, the fifth to the tenth moniliform: *head* broad: *thorax* cordate-truncate; hinder angles acuminate: *elytra* linear, much depressed: *anterior tarsi* dilated, especially in the males.

Cillenum differs from the other Bembidiidæ (excepting Lymnæum) by its linear depressed body; and from that genus it may be known by the length of the third joint of the antennæ, which considerably exceeds that of the fourth, and by the following joints being moniliform: it also differs in the proportions of the palpi, and in wanting the spine beneath the antepenultimate joint of the anterior tarsi.

Sp. 1. laterale. *Viridi-cupreum aut æneum, nitidum, antennarum basi pedibusque testaceis, elytris ochraceis æneo micantibus, tenue punctato-striatis.* (Long. corp. $1\frac{3}{4}$ —2 lin.)

Ci. laterale. *Leach, MSS.*—Curtis, v. pl. 200.—Steph. Catal. p. 36. No. 342.

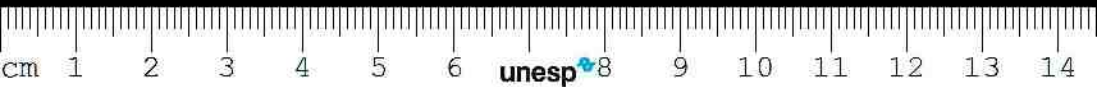
Bright-copper, or æneous, sometimes glossed with purplish: head and thorax minutely punctured, the former with two frontal sulci, the latter with a faint longitudinal channel: elytra ochraceous, glossed with greenish-brass, the lateral margin and part of the base excepted; slightly striated; the striæ obscurely punctured, and the third with four foveæ on the inner side: body beneath shining bronze; legs and base of the antennæ testaceous; tip of the latter and mouth pale-tawny.

Taken on several of the coasts, particularly on the northern coast of Norfolk. "Portobello Sands."—Dr. Leach, who discovered the insect in Britain. "Southend."—Rev. F. W. Hope. "Near Cromer, in Norfolk."—Rev. T. Skrimshire.

GENUS LXVI.—TACHYS, Ziegler.

Palpi nearly as in Lymnæum, but shorter, and more slender in proportion; external maxillary with the second joint obscurely subclavate; the following robust, subclavate, pilose; the terminal very short, slender, acute, usually deflexed; labial with the terminal joint above one-third as long as the preceding, slender; the latter subclavate, a little curved on one side: labrum transverse, entire: mandibles short, acute: mentum emarginate anteriorly, the emargination with an acute central tooth. Antennæ pubescent, the basal joint naked, second and fourth joints of equal length: head ovate: thorax transverse, the sides rounded, entire, as wide behind as before: elytra oblong ovate: body slightly convex: anterior tarsi of the males with the basal joint dilated.

The short, transverse, regularly-rounded, entire thorax, well distinguishes this genus from the others of the family: it has also some other peculiar characters, particularly the elongation of the second joint of the antennæ, which is equal in length to the fourth, and thus also differs from Philochthus.



Sp. 1. *scutellaris*. *Subdepressus, niger, elytris pallidis versus suturam utrinque obsolete tristriatis*. (Long. corp. $1\frac{1}{8}$ lin.)

Ta. *scutellaris mihi*.—*Steph. Catal. p. 36. No. 343.*

Somewhat depressed; black: head smooth, with a deep impression on each side in front between the eyes: thorax with the disc slightly convex; a strong dorsal channel, and a slight fovea on each side at the base: elytra pale, with the region of the scutellum dusky, and the hinder half somewhat suffused with the same; on each side of the suture three imperfect and obsolete punctate striæ, vanishing at the tip; the exterior portion of the elytra smooth, with a deep impression on the disc: legs very pale: antennæ pale at the base, slightly fuscous towards the apex: labrum and mandibles pale fulvous, the latter with the tip dusky.

Two specimens of this species were taken on the sandy coasts of Hants, by an active and industrious collector, Mr. D. Bydder, some years since; they are the only examples I have hitherto seen, and greatly resemble the insects of the preceding genus upon a transient inspection.

Sp. 2. *binotatus*. *Nigro-æneus, elytris striatis puncto apicali, tibiis tarsisque pallidis*. (Long. corp. $1\frac{1}{2}$ — $1\frac{1}{4}$ lin.)

Ta. *binotatus mihi*.—*Steph. Catal. p. 36. No. 344.*

Brassy or greenish-black; slightly glossy: head with a deep longitudinal impression on each side, between the eyes: thorax a little convex, obsoletely wrinkled transversely, with a faint longitudinal channel, and a deep impressed fovea on each side at the base: elytra slightly convex, striated, the striæ composed of punctate dots, and nearly obliterated on the outer edge of the elytra, towards the apex of which is a round pale spot: femora pitchy-black; tibiæ and tarsi pale fulvous: antennæ fuscous, with the basal joint rufescent.

Not uncommon throughout the metropolitan district. "South-end."—*Rev. F. W. Hope.*

Sp. 3. *vittatus*. *Nigro-æneus, elytris striatis, vittâ apicali pedibusque pallidis*. (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

Ta. *vittatus mihi*.—*Steph. Catal. p. 36. No. 345.*

Rather larger than the last; deep, glossy, brassy-black; head as in the last: thorax smooth, or very obsoletely wrinkled transversely, with a faint longitudinal channel, and a small impression on each side at the base: elytra rather deeply punctate-striated, the striæ obsolete at the apex; the latter with an undefined pale streak, or sometimes entirely pale: legs entirely pale-fulvous: antennæ dusky, with the basal joints reddish.

Common in damp banks, &c near London. "In Copenhagen-fields, near ponds."—*Mr. Ingpen.*



Sp. 4. *immunis*. *Æneo-niger, aut violaceus, elytris obsoletissime punctato-striatis, immaculatis, pedibus piceo-rufis, femorum basi piceis.* (Long. corp. $1\frac{1}{4}$ lin.)

Ocys *immunis*.—*Kirby, MSS.* Ta. *immunis*.—*Steph. Catal. p. 36. No. 346.*

Glossy brassy-black or violet; head with a rather obsolete curved impression on each side, between the eyes: thorax with the disc convex, the dorsal channel obsolete, and an excavated fovea on each side at the base: elytra a little dilated in the middle, of a bluish or violaceous hue, the suture somewhat rufescent, obsoletely punctate-striated, the lateral striæ nearly obliterated, the apex immaculate: the legs pitchy-red, with the base of the thighs pitchy; antennæ rufescent at the base, the tip dusky.

Also common near London, in Copenhagen and Battersea Fields, &c. “Cork, Milford-Haven, and Dartmoor.”—*Dr. Leach.*

Sp. 5. *obtusum*. *Piceo-niger, antennarum basi pedibusque rufescentibus, elytris immaculatis punctato-striatis, interstitio tertio bipunctato.* (Long. corp. $1\frac{1}{4}$ lin.)

Be. *obtusum*.—*Sturm?* Ta. *obtusum*.—*Steph. Catal. p. 36. No. 347.*

Allied to the last: deep pitchy-black: head with a deep impression on each side: thorax broad, convex, with a slight dorsal line; the base punctulate, with an impressed line on each side: elytra punctate-striated, with two or three impressed dots between the second and third striæ from the suture: legs pitchy-red: antennæ fuscous, with the base pitchy.

Far from uncommon in the neighbourhood of London. “Netley, Salop.”—*Rev. F. W. Hope.* “Banks of ponds, Copenhagen-fields.” *Mr. Ingpen.*

Sp. 6. *pusillus*. *Piceo-æneus aut virescens, thorace posticè utrinque foveolâ punctatâ, elytris tenuè punctato-striatis, apice piceis.* (Long. corp. $1\frac{1}{8}$ lin.)

Ta. *pusillus*.—*De Jean.*—*Steph. Catal. p. 36. No. 348.*

Pitchy-brass or greenish, shining: head with a small impression on each side between the eyes: thorax convex, with a faint dorsal line, and a punctate impression on each side at the base: elytra rather faintly punctate-striated, the exterior striæ nearly obliterated, the tip piceous: legs pitchy-red: antennæ fuscous, with the basal joint rufescent.

Frequently taken near London. “Netley, Salop.”—*Rev. F. W. Hope.* “Banks of ponds, Copenhagen-fields.”—*Mr. Ingpen.*

Sp. 7. *gracilis*. *Attenuatus, piceo-niger, elytris tenuè punctato-striatis, interstitiis impunctatis: thorace posticè utrinque foveolâ simplici.* (Long. corp. $1\frac{1}{4}$ lin.)

Ta. *gracilis mihi*—*Steph. Catal. p. 36. No. 349.*

Longer and more attenuated than the last; head with a slight impression on

each side between the eyes: thorax convex, with a faint dorsal line, and a simple impunctate fovea on each side at the base: elytra with the suture and apex slightly rufescent, faintly punctate-striated, the interstices impunctate: legs entirely of a fulvous red: antennæ dusky, with the base reddish.

On the sand-hills, near Swansea, in Glamorganshire.

Sp. 8. minutissimus. *Ferruginco-piceus, elytris pallidioribus striis duabus obsoletioribus dorsalibus.* (Long. corp. $\frac{7}{8}$ —1 lin.)

Ta. minutissimus. *Leach MSS.—Steph. Catal. p. 36. No. 350.*

Of a pitchy ferruginous, somewhat opaque: head blackish, with a longitudinal impression in front on each side: thorax with a very faint dorsal line, the hinder angles slightly prominent; near each a subtrigonal simple fovea: elytra rather slender, with two somewhat obsolete impunctate striæ on each near the suture; the rest of the disc smooth: legs and mouth pale rufescent: antennæ pitchy, with the apex dusky.

Unquestionably the smallest of the indigenous Geodephagous insects, at least so far as I have hitherto observed: upon a casual glance somewhat resembling a species of *Hydræna*.

Found on the Glamorganshire coast.

GENUS LXVII.—PHILOCHTHUS * *miki*.

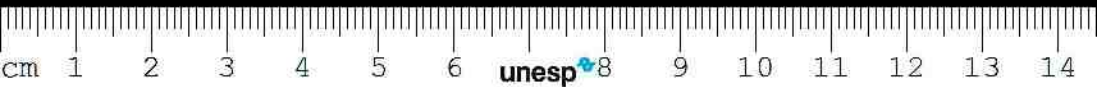
Palpi as in *Tachys*: *labrum* transverse, entire: *mandibles* broad, short, bent, not very acute: *mentum* emarginate anteriorly, with an acute central tooth. *Antennæ* pubescent, the basal joint naked, the second joint shorter than the fourth: *head* ovate: *thorax* transverse, slightly emarginate anteriorly, truncate posteriorly; the sides dilated, obtusely rounded, deeply notched at the hinder angle: *elytra* oblong-ovate, subconvex: *anterior tarsi* of the males with the basal joint dilated.

The name *Leia* having been used by Meigen for a genus of *Diptera* several years since, it became necessary to employ a new term to designate the insects of the genus *Leja* of Megerle; I have therefore proposed the above, in allusion to the usual place of resort which the species affect: the species may be distinguished from *Tachys* by the thorax, which has a deep emargination at its hinder angle; the second joint of the antennæ is also considerably shorter than the fourth.

Sp. 1. æneus. *Æneus, elytris immaculatis, punctato-striatis, apice lavibus, plicatis, femoribus nigris, tibiis tarsisque piceis.* (Long. corp. $2\frac{1}{2}$ lin.)

Be. æneum. *Spence MSS.—Ph. æneus. Steph. Catal. p. 36. No. 351.*

* φίλος; amicus, οχθῆν ripa.



Brassy, shining; head with two sulci anteriorly: thorax smooth, with a faint dorsal channel, the base with an excavation near the angles on either side: elytra rather wider than the thorax, oblong-ovate, somewhat convex, punctate-striated, the striae vanishing before the tip, which has, on each side near the margin, an elevated distinct line: body beneath, antennae, and femora black; tibiae and tarsi piceous.

Taken in the north of England, but not I believe near London.
 "Netley, Salop."—*Rev. F. W. Hope.*

Sp. 2. fuscipes. *Nigro-æneus, elytris punctato-striatis, apice lævibus pallidis, plicatis, pedibus ferrugineo-fuscis.* (Long. corp. 2—2½ lin.)

Leja fuscipes. *De Jean.* Ph. fuscipes. *Steph. Catal. p. 37. No. 352.*

Allied to the foregoing, but rather broader, and of a different hue above: deep glossy black-brass: head with two impressions in front: thorax slightly wrinkled transversely, with an obsolete dorsal channel, the base with a transverse impression, with a depression at each end: elytra rather broad, oblong-ovate, a little convex, bright brassy-green; punctate-striated, the striae not reaching to the apex, which is pale testaceous, and has a slight elevated line near the outer margin: body beneath blue-black: legs rusty-brown, or fulvous: antennae dusky, with the basal joint rufescent.

Frequently met with near London; also found in Devonshire, and near Swansea. "Netley, Salop."—*Rev. F. W. Hope.*

Sp. 3. subfenestratus. *Æneo-niger, elytris punctato-striatis, apice lævibus, maculâ rotundatâ pallidâ, pedibus rufo-fulvis.* (Long. corp. 2—2½ lin.)

Leja subfenestrata. *Megerle.*—Pl. subfenestrata. *Steph. Catal. p. 37. No. 353.*

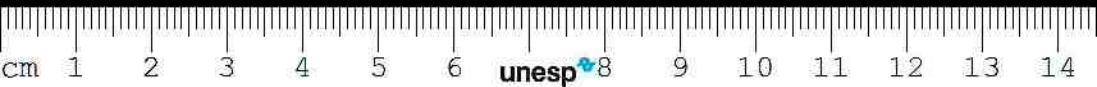
Very similar to the last: above of a brassy or greenish-black, shining: head smooth, with two anterior depressions: thorax smooth, with a faint dorsal line and a depression on each side near the posterior edge: elytra rather broad, oblong-ovate, subconvex, shining, smooth, punctate-striated; the apex impunctate, with a small, round, testaceous spot towards the outer margin, and sometimes the extreme tip pale: body beneath pitchy-black: legs fulvous-red: antennae dusky, with the base reddish.

Not uncommon near London. "Netley, Salop."—*Rev. F. W. Hope.* "Monovoulough Mountains, near Waterford, Ireland."—*Dr. Leach.*

Sp. 4. biguttatus. *Viridi-æneus, elytris punctato-striatis disco bipunctato, maculâ apicali rotundatâ, antennarum articulo primo pedibusque pallide rufo-testaceis.* (Long. corp. 1¾—2 lin.)

El. biguttatus. *Illiger.*—Ph. biguttatus. *Steph. Catal. p. 37. No. 354.*

Rather less than the preceding: brassy-green, shining: head with a slight impression on each side in front between the eyes: thorax somewhat convex,



very glossy, with a faint dorsal line, the edges of which are a little transversely wrinkled; near the hinder angles a depressed space: elytra rather broad, deeply punctate-striated, nearly to the apex; between the second and third striæ, two rather deep impressions: the apex with a strongly elevated line, and a fulvescent round spot: body beneath greenish, or brassy-black: the legs pale testaceous-red: antennæ fuscous, with the first joint rufous.

Occasionally met with near London. "Sandy-lane, near Richmond."—*Rev. T. T. Haverfield.*

Sp. 5. *guttula*. *Nigro aut virescenti æneus, elytris punctato-striatis, maculâ apicis pedibusque rufescentibus, antennis fusco-ferrugineis, extrorsum nigricantibus.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

El. *guttula*.—*Illiger*. Ph. *guttula*.—*Steph. Catal.* p. 37. No. 355.

Again smaller than the last: black, or greenish-brass; shining: head smooth, often bluish, with a slightly oblique impression on each side anteriorly: thorax a little convex, glossy, smooth, with a faint dorsal channel; and, near the base on each side, an oblong, moderately-impressed, oblique foveola: elytra oblong-ovate, rather convex, striated, the striæ anteriorly punctate, posteriorly vanishing before the apex, the outer ones very obsolete; near the apex, on the margin, a pale reddish transparent spot: body beneath of a glossy, brassy-black: legs rufescent, the femora often dull-pitchy at the base.

Extremely abundant in the neighbourhood of London, especially in Battersea-fields. "Plentiful in Plaistow Marshes.—*A. Cooper, Esq.* "Isle of Arran, and Reek Mountains in Ireland.—*Dr. Leach.* "Southend."—*Rev. F. W. Hope.*

Sp. 6. *hæmorrhous*. *Nigro-æneus, subnitidus, elytris tenuè punctato-striatis, apicibus pallide piceis, pedibus piceis, antennis nigris.* (Long. corp. $1\frac{1}{7}$ — $1\frac{1}{2}$ lin.)

Ocys hæmorrhous.—*Kirby, MSS.* Ph. hæmorrhous.—*Steph. Catal.* p. 37. No. 356.

The smallest species of the genus: of a deep bronzed-black; rather shining: the head smooth, with two oblique sulci in front: thorax convex, with a very faint longitudinal channel; a transverse, impressed line at the base; and, on each side of the latter, a small oblique foveola: elytra oblong-ovate, faintly punctate-striated, the striæ evanescent at the apex, the latter pale-pitchy: legs deep-pitchy: antennæ black.

I have twice captured this species near London, and have received it from Norfolk.

GENUS LXVIII.—OCYS, *Kirby.*

Palpi nearly as in *Tachys*, but the terminal joint of both external maxillary and labial rather elongate: *labrum* subquadrate, entire: *mandibles* short,



arcuate, rather obtuse: *mentum* emarginate anteriorly, the emargination with an acute central lobe. *Antennæ* with the two basal joints naked, the rest pubescent, the fourth longest: *head* small, ovate: *thorax* transverse, the sides regularly rounded, as wide posteriorly as anteriorly, the hinder angles prominent, acute: *elytra* rather broad, ovate: *body* somewhat convex: *anterior tarsi* of the males with the basal joint dilated.

Ocys (a MS. name applied by Mr. Kirby to designate the Bembiidæ long since) I have restricted to those insects of the family which have the sides of the thorax gradually rounded, as in Tachys and Philochthus, but the hinder angles acute and prominent: the labrum broader, and nearly quadrate: the antennæ with the fourth joint longest; the elytra considerably dilated on the sides, and the terminal joints of the external maxillary and labial palpi longer than in those genera. The form of the thorax obviously disunites it from all the following genera, which have that part attenuated posteriorly.

Sp. 1. *currens*. *Æneo-niger*, *elytris cyaneis punctato-striatis, striis laterum et apicis evanescentibus, antennis pedibusque rufo-testaceis*. (Long. corp. $2-2\frac{1}{4}$ lin.)

Oc. *currens*.—*Kirby, MSS.*—*Steph. Catal. p. 37. No. 357.*

Brassy, or greenish-blue; shining: head smooth, with an obscure impression on each side, between the eyes: thorax smooth, greenish-black, with a rather faint longitudinal channel; the base with a transverse impression, terminating in a moderately-deep foveola: elytra of a rich immaculate blue, or slightly greenish: deeply punctate-striated at the base towards the suture, the striæ vanishing before the apex, and the outer ones nearly obliterated; the two sutural ones, however, are produced to the tip itself, which is sometimes narrowly edged with reddish: body beneath pitchy black: legs and antennæ testaceous red.

Not a common insect; generally met with in damp, marshy situations: on the 1st January, 1825, I found three specimens in moss, at the foot of Ockham-park wall, near Ripley. It likewise occurs in Norfolk and Suffolk. “Battersea-fields.”—*Mr. Westwood.*

Sp. 2. *melanocephalus*. PLATE 10. f. 2. *Rufo-ferrugineus, capite elytris obscurioribus, his plerumque cyaneo-nigris, antennis fulvis, palpis pedibusque pallidis*. (Long. corp. $2\frac{1}{4}-2\frac{1}{2}$ lin.)

Be. *melanocephalum*.—*Leach, MSS.* Ocys *melanocephalus*.—*Steph. Catal. p. 37. No. 359.*

Rusty-red, shining, rather convex: head dusky; faintly rugose anteriorly, and with two moderately impressed sulci in front: thorax somewhat convex, bright ferruginous-red; with a moderate dorsal channel, and two deeply impressed striolæ at the base, towards the centre of the margin: elytra dull



ferruginous or pitchy black, very faintly striated, the striæ obsoletely punctate, vanishing before the apex, and the outer ones obliterated: body beneath pale-reddish ferruginous: antennæ fulvous: legs and palpi pale testaceous.

Far from an abundant species: I have taken it at Ripley, Hertford, and near London; and have received it from Norfolk and Swansea. "Lawrence-Waltham, in March, 1828."—*Mr. Hanson*. "Netley, Salop, not common."—*Rev. F. W. Hope*.

Sp. 3. *tempestivus*. *Rufo-ferrugineus, elytris obsolete punctato-striatis, plagâ longitudinali atrâ; antennis pedibusque pallidis.* (Long. corp. $2\frac{1}{2}$ lin.)

Ca. tempestivum.—*Panzer?*—*Steph. Catal. p. 37. No. 358.*

Rather larger than the last: entirely of a ferruginous-red, with the thorax brightest: head a little dusky, slightly rugose between the eyes, with two moderately deep longitudinal sulci anteriorly: thorax very glossy, with a faint longitudinal channel; the base with a transverse impressed line near the margin, and with an oblique fovea on each side: elytra subovate, rather glossy, with an undefined, black, longitudinal patch towards the margin, obsoletely punctate-striated, the outer striæ nearly obliterated, and all but the central one vanishing before the apex: body beneath pale ferruginous red; the margins of the abdominal segments dusky: legs pale rufous: antennæ and palpi the same.

I have seen few specimens only of this species, which appears to agree with Panzer's figure of *Ca. tempestivus*; but the palpi are not sufficiently developed in his figure to decide the point, and Panzer places his insect in the "Index Entomologicus" amongst the Trechi: at all events, the present insect has always been considered, in this country, as the one just named; and as it appears not to be otherwise described, I have retained the name in preference to imposing a new one.

Found occasionally near London, and in Norfolk: also, I believe, in Devonshire.

GENUS LXIX.—PERYPHUS, *Megerle*.

Palpi rather elongate; *external maxillary* with the second joint nearly equal in length with the third, very slightly subclavate; the third more robust, clavate, the terminal very short, slender, truncate; *labial* with the terminal joint rather elongate, slender, acute: *labrum* transverse, entire: *mandibles* short, curved, rather acute: *mentum* anteriorly emarginate, the emargination with an obtuse central lobe. *Antennæ* with the two basal joints naked, the rest pubescent, the third joint longest, the remainder elongated, though shorter than the third: *head* small, ovate: *thorax* cordate-truncate, the hinder angles prominent, acute: *elytra* elongate-ovate: *body* rather depressed: *anterior tarsi* of the males with the two basal joints dilated.

The genus *Peryphus* embraces the largest species of the family: the antennæ have the two basal joints naked, with the third longest,



and the following elongated: the thorax is cordate-truncate, with prominent angles; and, with the body, rather depressed.

A. Elytra more or less spotted.

Sp. 1. *femoratus*. *Subdepressus, viridis, antennarum basi tibiis tarsisque ferrugineis, elytris rufescenti bimaculatis, striis laterum et apicis evanescentibus.* (Long. corp. $2\frac{1}{2}$ — $2\frac{3}{4}$ lin.)

Be. *femoratum*.—*Sturm.* Pe. *femoratus*.—*Steph. Catal. p. 37. No. 360.*

Rather depressed, green; head smooth, with two obsolete sulci anteriorly: thorax smooth, with a rather faint longitudinal impression, and a deep one on each side, near the hinder angles: elytra rather greenish-brass, with a large reddish humeral spot, and another at the base on each; punctate-striated, the lateral striæ obsolete, and the others not reaching to the tip: body beneath brassy or pitchy-black: thighs black, more or less ferruginous at the base; tibiæ and tarsi generally ferruginous: palpi with the penultimate joint deep-black: antennæ black, with the first, and frequently the base of the three following joints, rufous. The size of the spots on the elytra, as well as the colour of the upper surface, varies considerably: the femora are sometimes totally ferruginous.

An elegant and far from uncommon species, abounding, especially, in Battersea-fields. "Netley, Salop."—*Rev. F. W. Hope.* "Plaistow-marshes."—*A. Cooper, Esq.*

Sp. 2. *concinus*. *Subdepressus, æneo-viridis, antennarum basi pedibusque ferrugineis, elytris pallidis cruce æneo-nigro.* (Long. corp. $2\frac{1}{4}$ — $2\frac{1}{2}$ lin.)

Ocys *concinus*.—*Kirby, MSS.* Pe. *concinus*.—*Steph. Catal. p. 37. No.*

Probably a variety of the foregoing: it differs chiefly in its paler hue, and in the integrity of the cruciform mark on the elytra: it is smaller; of a brassy-green; the base of the antennæ and the legs entirely ferruginous: the elytra pale testaceous, with a blackish-green patch down the suture, transversely crossed near the apex with the same: in some specimens the elytra are nearly pale, with a slight greenish patch near the suture.

Found in damp situations near London, and in Suffolk.

Sp. 3. *saxatile*. *Depressus, nigro-virescens, antennis pedibusque obscure ferrugineis; elytris obsolete rufo trimaculatis, striis ad apicem excurrentibus.*—(Long. corp. $2\frac{1}{2}$ lin.)

Be. *saxatilis*.—*Gyllenhal.* Pe. *saxatilis*.—*Steph. Catal. p. 37. No. 362.*

Differs from the two last, and from the following, which it greatly resembles, in its smaller size, more depressed body, and by the elongation of the striæ on the elytra: it is of a rich dark-greenish, sometimes tinged with blue: the head is similar to the last: thorax rather larger, with a more evident dorsal line: elytra with two rather obsolete rufous spots upon each, generally round, and the posterior ones frequently minute; striated, the striæ punctated,



and reaching to the apex; but those on the sides rather obsolete: legs deep ferruginous, the femora sometimes brown: antennæ also deep ferruginous, with the base paler, and the apex sometimes dusky.

The only examples of this species that I have been able to identify are those which I possess from the north of England, and another taken by myself, near London, some years since.

Sp. 4. littoralis. *Subdepressus, viridi-æneus, antennis variegatis, pedibus ferrugineis; elytris rufescenti trimaculatis, striis laterum et apicis evanescentibus.* (Long. corp. $2\frac{3}{4}$ —3 lin.)

Ca. littoralis.—*Olivier.* Pe. littoralis.—*Steph. Catal. p. 37. No. 363.*

Larger than the three foregoing: greenish-brass; slightly depressed: head smooth, with an impression on each side, near the eyes, and an elevated carina: thorax above moderately convex, smooth, with a moderate dorsal channel, and a punctulated impression on each side at the base, near the angles: elytra oblong-ovate, of a shining brownish-green, punctate-striated, the marginal striæ obsolete, and the others not reaching to the apex; the base with a large, oblong, indeterminate, pale, ferruginous spot, and another larger, at the apex; body beneath smooth, glossy, bluish-black: legs entirely pale ferruginous: palpi the same: antennæ dusky towards the apex, with the three first, and base of several of the following joints ferruginous.

The size of the spots on the elytra varies greatly.

The most abundant species of the family in England, occurring in plenty everywhere beneath stones, by the sides of ponds, in banks, &c.

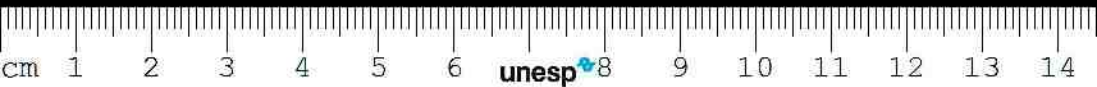
Sp. 5. lunatus. PLATE X. f. 3. *Viridi-æneus, nitidus, palpis antennis pedibusque pallide testaceis, elytris profundè punctato-striatis, macula lunatâ ferrugineâ intra apicem.* (Long. corp. 3— $3\frac{1}{2}$ lin.)

Ca. lunatus.—*Dufschmid.* Pe. lunatus.—*Steph. Catal. p. 38. No. 364.*

Considerably larger than Pe. littoralis: of a shining, rich, green-brass: head porrect, mouth pitchy, palpi entirely pale testaceous: antennæ with the three or four basal joints pale-testaceous, the rest fuscous: thorax of a very brilliant brassy-green, highly polished, with a moderate dorsal channel; and on each side, near the hinder angle, a large, round, impressed fovea: elytra greenish, a little glossed with brassy, with a large, transverse, sublunated, pale, ferruginous-red spot near the apex: striated, the striæ punctate, reaching to the apex: body beneath pitchy-black or pale-ferruginous, impunctate: legs elongate, entirely pale-testaceous.

It varies considerably, both in size and colour: in some species the entire apex of the elytra is of a pale-whitish hue, and the legs are of the same colour: probably the result of immaturity.

The only locality I know for this, which is the largest indigenous insect of the family, is the Glamorganshire coast, near Swansea.



Sp. 6. *ustus?* *Subconvexus, virescente-æneus, antennis palpis pedibusque pallidis, elytris striatis, apice lævibus pallidisque; subtus ferrugineus, aut æeoniger.* (Long. corp. 3—3½ lin.)

Ca. *ustus.* *Schönher?*—Pe. *ustus.* *Steph. Catal. p. 38. No. 365.*

Greenish-brass or dusky-green, rather shining; a little convex: head subviolet, with the usual frontal impressions: antennæ and palpi pale ferruginous: thorax smooth, subvirescent, with a dorsal line and two large punctate basal impressions, one on either side: elytra rather convex, glossy, crenato-striated, the striæ obliterated before the apex, and towards the margin; the apex pale ferruginous-brown, very smooth: beneath ferruginous or brassy-black: legs pale rufo-ferruginous.

Taken in Norfolk, and in Yorkshire; but, I believe, somewhat rarely.

Sp. 7. *decorus.* *Subdepressus, virescens, antennarum basi pedibusque ferrugineis, elytris striatis, apice sublævibus pallidisque, subtus niger.* (Long. corp. 2½—3 lin.)

Be. *decorus.*—*Panzer?*—Pe. *decorus.* *Steph. Catal. p. 38. No. 366.*

Similar to the last, but more depressed and smaller; the colour different, &c.

Above bright greenish: head with the two usual impressions, rather deep: thorax rather glossy, with a faint dorsal line, and a shallow impressed line on each side at the base: elytra bright greenish, with the tip pale pitchy-ferruginous; crenato-striated, the striæ becoming obliterated at the sides and towards the tip, the sutural one carried on to the apex itself: body beneath brassy-black: legs ferruginous: basal joint of the antennæ the same; the rest, and the terminal joints of the palpi, dusky.

Not a very common insect; found occasionally in damp gravel-pits, &c. near London. "Sandy-lane, at Richmond."—*Rev. T. T. Haverfield.*

B. With the elytra immaculate.

Sp. 8. *nitidulus.* *Subdepressus, nigro-cærulescens, aut virescens, nitidus, antennarum basi tibiis tarsisque rufescentibus, elytris punctato-striatis, apice sublævibus.* (Long. corp. 2—2½ lin.)

Ca. *nitidulus.* *Marsham.*—Pe. *nitidulus.* *Steph. Catal. p. 38. No. 368.*

Glossy deep-blue or greenish: head and thorax dusky-blue; the former with two slight frontal impressions, the latter with a faint dorsal channel, and the hinder margin punctate, with an impression on each side near the angles: elytra immaculate shining greenish, or blue, punctate-striated, the striæ not reaching to the apex, and the lateral ones somewhat obsolete: legs dusky black or pitchy, with the tip of the thighs, tibiæ, and tarsi rufescent: antennæ with the base rufescent, the apex dusky: palpi with the terminal joints dusky.

Rather a local species; occurring, however, in tolerable plenty in the gravel-pits on Wimbledon-common, and occasionally in those



at Coombe-wood. "Banks of ponds, Wandsworth-common."—*Mr. Inghen*. "Netley, Salop, abundantly."—*Rev. F. W. Hope*.

Sp. 9. *viridi-æneus*. *Depressus, virescente-æneus, antennarum articulo basali pedibusque pallide rufis, elytris punctato-striatis, striis ad apicem excurrentibus*. (Long, corp. $2\frac{1}{2}$ — $3\frac{1}{2}$ lin.)

Be. *viridi-æneus mihi*.—*Steph. Catal. p. 38. No. 367.*

The largest insect of this division, and greatly resembling the next, but at once known by its superior bulk and the striated apex to the elytra: it is depressed, of a bright greenish-brass: the head with two deep frontal sulci: thorax rich glossy green, with a slight dorsal line, and a very deep obsoletely rugose impression on each side at the base: elytra punctate-striated, the striæ reaching to the apex; the disc with two or three impressed dots: body beneath pale pitchy or brassy-black: legs pale rufous, with the tarsi obscurely dusky: basal joint of the antennæ rufescent; the rest and terminal joints of the palpi dusky.

Var. β ? Be. *tibiale*. *Megerle*? With the femora bronzed-green: the insect of a larger size.

The elytra vary in colour; being sometimes of a pale brownish-green, deep bluish-green, or pitchy.

Taken in the north of England, and in Scotland.—"Carfin, Lanarkshire."—*Rev. F. W. Hope*. Var. β ? "Midgeley Moor."—*Mr. Gibson*.

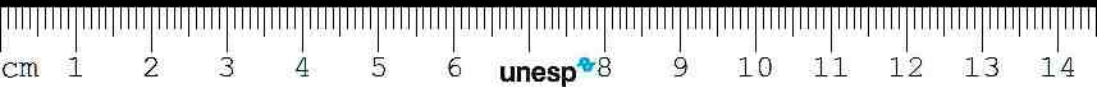
Sp. 10. *agilis*. *Depressus, virescente-æneus, antennarum articulo basali pedibusque pallide rufo-testaceis, elytris punctato-striatis, apice sublavibus*. (Long, corp. $2\frac{1}{2}$ —3 lin.)

Be. *agile*. *Spence, MSS.*—Pe. *agilis*. *Steph. Catal. p. 38. No. 369.*

Rather less than the foregoing: depressed; bright brassy-green: head glossy, with two rather wrinkled shallow frontal sulci: thorax also glossy green, the disc obsoletely wrinkled transversely, and the base strongly so longitudinally, with a shallow fovea on each side near the hinder angle; the disc with a deep dorsal line: elytra rather glossy, bronzed-green; punctate-striated, the striæ not reaching to the tip, and the lateral ones becoming obsolete; the disc with three impressed dots between the second and third striæ: body beneath pitchy-black: legs pale testaceous-red: basal joint of the antennæ (and sometimes the base of several of the following) and of the palpi pale testaceous; the terminal joints dusky.

Inhabits various parts of the north and west of England; also in Scotland and North Wales. "Near Liverpool, Falmouth, and Spitchweek."—*Dr. Leach*. "Netley, Salop, and Capel Cerig, North Wales."—*Rev. F. W. Hope*.

Sp. 11. *tibialis*. *Depressus, æneo-niger, antennarum articulo basali, tibiis tarsisque rufescentibus, elytris striatis, striis ad apicem excurrentibus*. (Long, corp. $2\frac{3}{4}$ lin.)



Be. tibiale. *Leach, MSS.*—*Pe. tibialis. Steph. Catal. p. 38. No. 370.*

Deep brassy black, shining, depressed: head bright greenish, with the two usual sulci: thorax green, very glossy and smooth, the dorsal line moderate, at the base on each side a single deep impunctate fovea: elytra dusky-brass, striated, the striæ rather obsoletely punctate, with two or three impressed dots on the third from the suture, and all reaching to the apex: body beneath deep brassy-black; femora the same, with their apex, the coxæ, tibiæ, and tarsi reddish: antennæ with the basal joint reddish, the rest dusky: palpi also dusky.

This likewise varies in colour; some specimens having the head and thorax light blue, and others nearly black: the elytra are sometimes of the latter colour, at others brownish or virescent.

Also found in places remote from the metropolis. “Near Swansea, and in the north of England.”—*Dr. Leach.* “Carfin, Lanarkshire.” *Rev. F. W. Hope.*

Sp. 12. *Leachii. Depressus, æneo-niger, antennarum articulo basali inferne piceo-ruf, palpis pedibusque nigris; elytris striatis, striis impunctatis, ad apicem excurrentibus.* (Long. corp. $2\frac{1}{2}$ lin.)

Be. *Leachii. Spence, MSS.*—*Pe. Leachii. Steph. Catal. p. 38. No. 371.*

Differs from all the foregoing by the impunctate striæ on the elytra, and from the next by its colour, which is blackish-brass, slightly shining: head smooth, with the usual impressions very shallow, and with a violet tinge: thorax smooth, with an abbreviated dorsal line, and a large, deep, impunctate fovea on each side at the base: elytra rather broad, deep greenish-bronze, striated, the striæ impunctate, but two or three impressed dots on the disc: body beneath, palpi, and legs, entirely black, the latter with the base of the femora sometimes very obsoletely rufescent.

Allied to *Be. olivaceum* of Gyllenhal; but I presume that the next species is synonymous with his insect.

This is also found at a distance from the metropolis; *Dr. Leach* supplied me with a pair, and I obtained one from the Marshamian collection.—“Loch Lomond.”—*Dr. Leach.*

Sp. 13. *olivaceum. Depressus, virescente-æneus, antennarum articulo primo femorumque basi brunneo-ferrugineis, elytrorum striis tenuibus impunctatis.* (Long. corp. $2\frac{1}{2}$ — $2\frac{3}{4}$ lin.)

Ocys picipes Kirby, MSS.—*Pe. picipes. Steph. Catal. p. 38. No. 372.*

Greatly allied to the last, of which it may prove a mere variety: its head is the same in colour and in sculpture; the palpi are black, and the mandibles rufescent: the thorax is also similar, and the elytra are simply striated with two or more impressed dots on the disc: the body beneath is deep greenish-black and glossy: the legs are of a pitchy-brown, with the thighs paler, or rufescent at the base: the first joint of the antennæ is more or less pitchy, and the rest dusky.

This is probably synonymous with the *Be. olivaceum* of Gyllenhal.

Inhabits the northern counties of England, and the south of Scotland; but not yet found near London. "Carlisle, Lanarkshire."—*Rev. F. W. Hope*. "Carlisle."—*Dr. Leach*.

Sp. 14. *atro-cæruleus*. *Depressus, æneo-niger, antennarum basi, tibiis tarsisque piceo-ferrugineis, elytris atro-cæruleis striatis, striis obsolete punctatis*. (Long. corp. $2\frac{1}{2}$ lin.)

Pe. atro-cæruleus mihi. *Steph. Catal. p. 38. No. 373.*

Similar to *Pe. tibialis*, but the striae on the elytra less punctate, &c. of a deep brassy-black; head and thorax glossy, tinged with greenish, the former with the usual frontal sulci; the latter slightly wrinkled transversely, with a faint dorsal channel, and an impressed fovea on each side at the base: the elytra deep blue, faintly striated, the striae obsoletely punctate, and extending to the apex; the disc with two impressions; body beneath and femora brassy-black; tibiae, tarsi, and basal joint of the antennae pitchy-ferruginous; the rest of the latter and the palpi dusky.

I have three specimens of this insect, two of which were taken near Halifax by Mr. Gibson; the locality of the other I have forgotten.

GENUS LXX.—NOTAPHUS, *Megerle*.

Palpi rather more slender than in *Peryphus*; the *external maxillary* with the terminal joint scarcely truncate, the third very pilose, longer than the second; *labial* with the terminal joint rather stout: *labrum* quadrate, entire: *mandibles* rather stout, somewhat acute: *mentum* emarginate anteriorly, the emargination with an acute central lobe. *Antennæ* with the two basal joints naked, the rest pubescent, the third and fourth shorter than the fifth: *head* ovate, with two frontal sulci, and a deep fold on each side adjoining the eyes: *thorax* cordate-truncate, attenuated behind: *body* slightly depressed: *elytra* oblong-ovate, the sutural stria rather elongated: *anterior tarsi* of the males with the basal joint dilated.

Notaphus offers many points of resemblance to *Peryphus*; but among other characters the head is rather larger, and in addition to the two frontal sulci, it has an elevated circular fold over each eye; the body is shorter and more convex; the elytra have the usually abbreviated stria longer, and the prevalent colour is æneous, more or less minutely spotted with yellowish, and not tints of green or bluish with large pallid spots, as in the latter genus; the insects are usually smaller.

A. Elytra spotted or variegated.

Sp. 1. *undulatus*. PLATE X. f. 4. *Capite thoraceque æneo-nigris, elytris brunneis, fasciâ undulatâ pallidiore versus apicem, punctato-striatis, disco bipunctato, antennarum articulo primo pedibusque brunneis*. (Long. corp. $2\frac{3}{4}$ —3 lin.)

Be. undulatum. *Sturm.*—No. articulus. *Steph. Catal. p. 38. No. 374.*

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c

The largest of the genus: head and thorax of a bright coppery-green or brassy-black, the former smooth, with the usual sulci rather obsolete, the ophthalmic fold very distinct: thorax slightly convex, with a moderate dorsal line; the base impunctate, with a deep fovea on each side, margined with a longitudinal carina, as in *Argutor*: elytra brassy-brown, punctate-striated, with a transverse pale waved fascia towards the apex, and two deep impressed dots between the second and third striæ from the suture: body beneath greenish, or brassy-black, shining: legs and basal joint of the antennæ brown, the rest of the latter and the palpi dusky, sometimes a little tinged with piceous.

Not very common: it is, however, occasionally taken in damp places near London, but is far more abundant in South Wales, occurring near Swansea and Milford. "Earl's-court, Old Brompton, rather plentifully."—*Mr. Waterhouse*. "Walham-green."—*Mr. Westwood*. "Netley, Salop."—*Rev. F. W. Hope*.

Sp. 2. *ustulatus*. *Capite thoraceque viridi aut cupreo-æneis, elytris lividis æneomicantibus, lituris fuscis irregularibus fasciâque undulatâ pallidâ versus apicem ornatis, pedibus testaceo-brunneis*. (Long. corp. $2\frac{1}{2}$ — $2\frac{3}{4}$ lin.)

El. *ustulatus*. *Illiger*.—No. *ustulatus*. *Steph. Catal. p. 38. No. 375*.

Much less than the last: head and thorax of a green or bronzed copper, the former minutely punctulated, with two rather shallow frontal sulci; the latter with a deep dorsal line, and a deep large fovea on each side at the base: elytra of a livid hue, glossed with æneous, with various irregular brown streaks and patches, leaving a waved paler band towards the apex; they are rather faintly striated, the striæ punctate and brown; the disc with two impressed dots: the body beneath pitchy-black or brassy: the legs testaceous brown; the basal joint of the antennæ the same; the others pitchy or dusky.

Sometimes met with in the metropolitan district, though not in company with the last, but infinitely more abundant near Swansea. "Netley, Salop; Isle of Sheppey, Sandown, and Deal, in June last."—*Rev. F. W. Hope*. "Banks of ponds, Battersea, and Copenhagen-fields, April to June."—*Mr. Ingpen*. "Ditto, and under rejectamenta, banks of the Thames, Plaistow marshes."—*A. Cooper, Esq.*

Sp. 3. *nebulosus*. *Cyaneo-niger, capite cyaneo, thorace æneo violaceo micante, elytris lividis fusco subnebulosis, suturâ cyaneo-nigrâ, pedibus piceo-brunneis*. (Long. corp. $2\frac{1}{2}$ lin.)

No. *nebulosus mihi*. *Steph. Catal. p. 39. No. 376*.

Head of a rich glossy blue, with the frontal sulci rather deep: thorax brassy, glossed with violet, especially at the sides; the disc transversely wrinkled, and with a faint dorsal line; the base with a deep obscurely rugged fovea on each side: elytra pale, livid griseous, with the disc obscurely clouded with fuscous, the suture rich blue-black, shaded off into the ground colour of



the disc, which is tinged with a sombre hue towards the shoulders; the elytra are punctate-striated, the striæ brown: body beneath brassy-black, tinged with blue on the head and thorax; legs pitchy-brown glossed with bluish: antennæ pitchy, with the basal joint brownish-red.

I obtained a single specimen of this insect from the Marshamian cabinet; it is the only one that I have as yet seen.

Sp. 4. bifasciatus. *Æneo aut viridi-niger, elytris punctato-striatis, æneo-fuscis, fasciis duabus irregularibus griseo-flavis, pedibus æneo-piceis, tibiis pallidioribus.* (Long. corp. 2—2 $\frac{3}{4}$ lin.)

No. bifasciatus. *Leach, MSS.*—No. semipunctatus. *Steph. Catal. p. 39. No. 377.*

Head and thorax of a brassy or greenish-black, the former with two obsolete frontal sulci; the latter convex, with a faint dorsal line, and a deep impunctate fovea on each side at the base; elytra punctate-striated, with two or three impressed dots on the disc, of a brassy-brown, with two irregular transverse bands of griseous-yellow spots, one near the base, the other towards the apex, the apex itself pitchy-brown: the body beneath pitchy or brassy-black: legs pitchy-brass, with the tibiæ and tarsi brassy-brown: palpi and antennæ dusky, the latter with the base rufescent.

This species varies much in colour, and I suspect that the *Carabus semipunctatus* of Donovan, v. xi. pl. 367. f. 2. is referable to one of the varieties.

Not uncommon in several parts of the country. “Copenhagen-fields.”—*Mr. Ingpen.* “Paddington, by the canal; Netley, Salop; Isle of Sheppey, and Deal, in June last, abundantly.”—*Rev. F. W. Hope.* “Near Marystow and Woodland, Devon; and Swansea, Glamorganshire.”—*Dr. Leach.* “Under rejectamenta, banks of the Thames, Plaistow marshes, and in Copenhagen-fields.”—*A. Cooper, Esq.*

Sp. 5. obliquus. *Splendide æneo-virescens, elytris tenuè punctato-striatis, fasciis duabus maculisque aliquot sparsis flavescentibus, antennis pedibusque nigro-æneis.* (Long. corp. 2—2 $\frac{1}{4}$ lin.)

Be. obliquus. *Sturm.*—No. obliquus. *Steph. Catal. p. 39. No. 378.*

Closely allied to the last, but of a more brilliant hue; the maculations on the elytra differently disposed, &c.: it is of a brilliant glossy brassy-green; the head, with the usual sulci, rather shallow: the thorax shining, smooth, with the dorsal line faint, and two deep, rather obsoletely rugose, impressions at the base, one on each side: elytra bright brassy-green, finely punctate-striated, the disc with several scattered yellowish spots, and two distinct irregular transverse fasciæ, one towards the base, the other near the tip, the latter immaculate: body beneath, and legs, brassy-black; the tibiæ and tarsi piceous.

Found on the shores of the Thames and Severn, near their union

with the ocean. "Isle of Sheppey, in June last."—*Rev. F. W. Hope*. "Plaistow marshes."—*A. Cooper, Esq.*

Sp. 6. stictus. *Æneo aut virescenti-niger, elytris tenuis punctato-striatis pallidis, maculis aliquot irregularibus nigris, pedibus piceo-ferrugineis, antennis piceo-fuscis, basi piceo.* (Long. corp. $1\frac{3}{4}$ —2 lin.)

No. stictus mihi. *Steph. Catal. p. 39. No. 379.*

Smaller than the foregoing: brassy or greenish-black; head as before; thorax with a faint dorsal line, and a deep smooth fovea on each side at the base: elytra rather faintly punctate-striated; pale brownish-yellow, with several scattered irregular black spots and blotches: body beneath glossy bronzed-black: legs pitchy rust-colour; antennæ pitchy-brown, with the base pitchy.

"Found at Southend."—*Rev. F. W. Hope*; to whom I am much indebted, not only for specimens of this, but of several other insects, many of very great rarity, and for much valuable information relative to their localities, &c.

Sp. 7. fumigatus. *Nigro-æneus, elytris punctato-striatis, pallidis æneo-micantibus, fasciis duabus irregularibus nigris, pedibus rufo-ferrugineis.* (Long. corp. $1\frac{3}{4}$ —2 lin.)

El. fumigatus. *Creutzer*—No. fumigatus. *Steph. Catal. p. 39. No. 380.*

Size of the last: of a rich blackish-brass: head green, with the frontal sulci rather deep: thorax with its dorsal line rather abbreviated, and very faint; the base smooth, with a deep impunctate fovea on each side towards the hinder angles: elytra pale yellowish-brown, glossed with brassy, with two irregular black bands, and some scattered spots of the same, the suture tinged with bluish; they are punctate-striated, the striæ brown: body shining bronzed-black, with the legs rusty-red; the antennæ pitchy.

My specimens of this species I received from the coast of Glamorganshire.

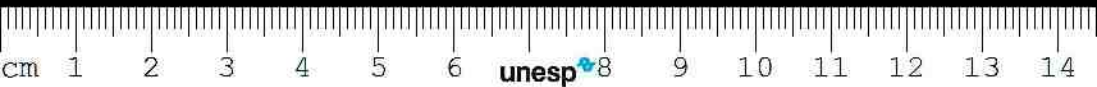
B. With the elytra pale, immaculate.

Sp. 8. ephippium. *Æneo-niger, elytris testaceis, nebula commune versus apicem fuscâ, antennis pedibusque testaceis.* (Long. corp. $1\frac{1}{2}$ lin.)

Ca. ephippium. *Marsham*.—No. ephippium. *Steph. Catal. p. 39. No. 381.*

Bronzed-black: head with the frontal sulci approximating in front: thorax rather convex, with the dorsal line somewhat abbreviated anteriorly, the base with a slightly rugose fovea on each side: elytra testaceous, with a brownish cloud or spot towards the suture, near the apex, common to each: they are rather faintly punctate-striated, the striæ brown: abdomen glossy black: legs and antennæ testaceous.

This is evidently a littoral insect; at least all the specimens I have hitherto seen have been captured on the coast: Mr. Bydder



took it in profusion on those of Hampshire, and Mr. Haworth, I believe, near Yarmouth. "Abundantly, in June last, beneath rejectamenta, on the shores of the Isle of Sheppey, Deal, Sandown, &c."—*Rev. F. W. Hope.*

Sp. 9. *castanopterus*. *Piceo-niger, elytris, antennis, pedibusque saturatè castaneis.* (Long. corp. $1\frac{1}{4}$ lin.)

El. castanopterus mihi. *Steph. Catal. p. 39. No. 382.*

Rather less than the last: head and thorax deep, slightly glossy, pitchy-black; the former with two parallel frontal sulci; the latter convex, with a faint dorsal line, and a small impunctate fovea on each side at the base: elytra deep immaculate chesnut, striated, the striæ faintly punctate and dusky: abdomen beneath pitchy-ferruginous: legs and antennæ deep chesnut.

I have one specimen of this insect, which I caught in the neighbourhood of London some years back.

GENUS LXXI.—LOPHA, *Megerle.*

Palpi rather short; *external maxillary* with the second and third joints of nearly equal length, the latter rather suddenly clavate and very pilose, the terminal joint very short, subtruncate; *labial* with the terminal joint rather elongate and acute, the preceding abruptly clavate: *labrum* short, transverse, entire: *mandibles* rather slender, elongate, acute: *mentum* with the anterior edge emarginate, the emargination with an acute central lobe. *Antennæ* with the two basal joints naked, the rest pubescent; the third and fifth of equal length, and longer than the fourth: thorax very globose anteriorly, depressed and attenuated posteriorly, and apparently remote from the *elytra*; the latter rather convex, the back depressed: *legs* rather slender: *anterior tarsi* of the males with the basal joint dilated.

The great convexity of the anterior portion of the thorax, and the attenuation of the posterior (which gives it the appearance of being somewhat remote from the elytra), well distinguish this genus from the rest of the family: to which may be added the greater convexity and glossiness of the body and slenderness of the legs. A few of the last species greatly resemble the insects of the genus *Tachypus*, by having the thorax more depressed anteriorly, &c. as hereafter mentioned.

Sp. 1. *pœcila*. *Nigro-cærulescens, nitida, antennis pedibusque testaceis, elytris testaceis, fasciis duabus posticis fusco-brunneis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Be. *pœcilum*. *Hoffmansegg.*—Lo. *pœcila*. *Steph. Catal. p. 39. No. 383.*

A beautiful species; of a deep glossy blue-black: head with two deep anteriorly approximating sulci in front: thorax above convex, glossy, smooth, black-blue, with a faint dorsal channel, and a transverse punctate impression at the



base, terminating at each end in a deep fovea near the hinder angles: elytra much broader at the base than the thorax, slightly convex, moderately punctate-striated, the striæ vanishing before the apex; shining reddish-testaceous, with an irregular dusky-brown bar in the middle, then an oblique slender testaceous bar interrupted at the suture, afterward a fuscous band, attenuated externally, followed by a pale testaceous apex: legs and antennæ testaceous, the latter dusky at the tip.

This pretty and neat little insect is far from rare: it occurs in the neighbourhood of London, especially in damp situations. "In Battersea and Copenhagen-fields."—*Mr. Inghen*. "Netley, Salop, in wet moss, in October."—*Rev. F. W. Hope*. "Ben Lomond."—*Dr. Leach*. "Walham-green."—*Mr. Westwood*.

Sp. 2. quadriguttata. *Nigro-ænea, nitidissima, elytris basi punctato-striatis, maculis duabus albidis, pedibus pallidis.* (Long. corp. $2-2\frac{1}{4}$ lin.)

Ca. 4-guttatus. *Fabricius*.—*Mart. Col. pl. 38. f. 37*.—*Lo. 4-guttata. Steph. Catal. p. 39. No. 384.*

Externally glossy brassy-black: head very smooth, with an oblong impressed line on each side between the eyes: thorax above very convex, greenish-blue, polished, smooth, with a faint dorsal line, a transverse punctate depression at the base, terminating at each end in a small foveola: elytra rather convex, very glossy, smooth, greenish-violet or black, striated, the striæ punctate at the base, and some of them at the apex, the sutural one continued to the tip, the rest more or less abbreviated; at the base is a large subtriangular whitish spot, and beyond the middle a second round one of the same colour: legs pale, with the thighs dusky at the apex: antennæ black, with the basal joint entirely, and the base of the three following ferruginous.

An elegant and rather conspicuous insect, occurring in damp places throughout the metropolitan district, and I believe equally common in other parts. "Near Carlisle."—*T. C. Heysham, Esq.* "Devonshire."—*Dr. Leach*. "Netley and Deal."—*Rev. F. W. Hope*.

Sp. 3. quadrimaculata. *Virescenti-ænea, antennis pedibusque testaceis, elytris punctato-striatis, maculis duabus pallidis.* (Long. corp. $1\frac{1}{2}-1\frac{5}{8}$ lin.)

Ci. 4-maculata. *Linné*.—*Lo. 4-maculata. Steph. Catal. p. 39. No. 385.*

Somewhat resembling, but very distinct from, the last: head smooth, glossy, greenish-brass, with an oblique sulcus on each side between the eyes: thorax of a very glossy polished green-brass; with a faint dorsal line; the posterior margin with a deep transverse punctate impression, terminating in a small simple fovea on each side, the margin itself elevated: elytra glossy blue-black, punctate-striated, the striæ vanishing before the apex; at the base is a large angulated pale spot, and towards the apex another round one, the apex itself pale: legs pale testaceous; the femora sometimes reddish-pitchy: antennæ testaceous, dusky towards the apex.



Far less common than the last, though it cannot be esteemed rare: it occurs in damp and marshy situations, at Battersea, Hertford, near Ripley, &c. "Southend, Deal, and Isle of Sheppey."—*Rev. F. W. Hope.*

Sp. 4. pulchella. *Nigro-cærulescens, nitida, pedibus rufescentibus, antennis omnino nigris, elytris punctato-striatis.* (Long. corp. $1\frac{3}{4}$ lin.)

Ca. pulchellus. *Marsham.*—Lo. pulchella. *Steph. Catal. p. 39. No. 386.*

Glossy blue-black: head with two parallel frontal sulci, placed rather closely together: thorax deep blue-black, very smooth and shining, with a faint dorsal line, and a slight transverse impression behind, terminating in a simple fovea: elytra bluish-black, immaculate, faintly punctate-striated: legs anteriorly rufescent: antennæ entirely black.

The original *Carabus pulchellus* of Marsham, which is in my collection, is the only specimen I have hitherto seen of this species; it is very distinct from all the others of the genus; its locality is unknown.

Sp. 5. assimilis. *PLATE X. f. 5.—Nigro-subænea, nitida, thorace postice bifoveolato, elytris punctato-striatis, apice pedibusque pallidis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Be. assimile. *Gyllenhal?*—Lo. assimilis. *Steph. Catal. p. 40. No. 389.*

Glossy bronzed-black; head smooth, with two rather oblique frontal sulci: thorax moderately convex, of a black or greenish-brass, shining, with a faint dorsal channel, and a subpunctate transverse striga at the base, terminating in a moderately deep simple foveola on each side: elytra greenish-black, moderately convex, shining, rather deeply punctate-striated anteriorly, the striæ vanishing before the apex, the latter pale testaceous, and within the margin a round pale pellucid spot: legs pale rufescent: antennæ dusky-black, with the base reddish.

Decidedly uncommon; the only localities I am aware of being the shores of the Thames, towards the ocean. "Sheppey, in June last, and Southend."—*Rev. F. W. Hope.*

Sp. 6. pusilla. *Æneo-nigra, subnitida, thorace postice lineâ transversâ punctatâ foveolisque duabus impressis, elytris punctato-striatis, nigro-castaneis, apice pallidiore.* (Long. corp. $1\frac{1}{2}$ lin.)

Be. pusillum. *Gyllenhal.*—Lo. Kirbii. *Steph. Catal. p. 40. No. 390.*

Allied to the last; deep brassy-black, slightly glossy; head with the front slightly rugose, and bearing two parallel sulci: thorax deep shining black, with a slight dorsal line, and a transverse series of impressed dots at the base, terminating in a deeper fovea on each, and near the hinder angle: elytra deep chesnut, with the tip paler and inclined to pitchy, deeply punctate-striated at the base, the striæ vanishing before the apex: abdomen black: legs pitchy-ferruginous: antennæ dusky, with the basal joints piceous.



I named this pretty species in my catalogue after my kind friend the Rev. W. Kirby, of whose zeal for science, and liberality in the communication of entomological lore, it were futile in me to dilate; his works forming a more lasting memorial than my feeble praise; but I have since ascertained that it is synonymous with the insect described by Gyllenhal (vol. iv. p. 403), by the name above quoted.

This is not a common species: I have hitherto seen three or four specimens only, two of which were taken on the coast of Norfolk, the others near London.

Sp. 7. *nigra*. *Ceruleo-nigra, nitida, antennarum basi pedibusque rufescentibus, elytris punctato-striatis, immaculatis.* (Long. corp. $1\frac{3}{8}$ lin.)

Be. *nigrum*. *Willk. MSS.*—Lo. *nigra*. *Steph. Catal. p. 40. No. 391.*

Deep bluish-black, shining; head with two oblique frontal sulci: thorax rather greenish-black, with a moderate dorsal line, and two basal foveæ, one on each side: elytra deep black, tinged with bluish or violet, immaculate, punctate-striated, the striæ vanishing before the tip: abdomen black: legs and basal joints of the antennæ rufescent; the rest of the antennæ dusky.

Found in marshy places near London, and in the neighbourhood of Norwich.

Sp. 8. *pulicaria*. *Æneo-nigra, nitida, antennis pedibusque nigris, elytris punctato-striatis, immaculatis.* (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

Ca. *pulicarius*. *Marshall MSS.*—Lo. *pulicaria*. *Steph. Catal. p. 40. No. 392.*

Deep brassy-black; head with two frontal sulci, placed a little obliquely: thorax slightly glossy black, convex, with the dorsal line very obsolete; an impressed line at the base, terminating at each end in a simple fovea: elytra rather depressed, slightly glossy, somewhat faintly punctate-striated, the striæ not reaching to the apex, immaculate: abdomen black: legs, antennæ, and palpi black: in some specimens the tibiæ and tarsi are pitchy.

Allied to *Bembidium Grapii* of Gyllenhal.

Not unfrequently taken in Battersea-fields; also at Hertford, and other places near London.

Sp. 9. *minima*. *Æneo-nigra, nitida, antennis pedibusque piceo-nigris, elytris punctato-striatis, immaculatis.* (Long. corp. 1 — $1\frac{1}{4}$ lin.)

Ca. *minimus*. *Fabricius?*—Lo. *minima*. *Steph. Catal. p. 40. No. 393.*

Considerably less than the last; deep brassy-black, shining: head with the frontal sulci nearly parallel: thorax glossy, with an evident dorsal line, rather convex, greenish; the base with a fovea on each side, near the hinder angles, and frequently connected by a transverse row of impressed dots: elytra rather pitchy-black, immaculate, punctate-striated, the striæ reaching nearly to the apex: body black: legs, palpi, and antennæ pitchy-black.

Not a very common species; found sometimes near London. "Liverpool and Falmouth."—*Dr. Leach*. "Southend."—*Rev. F. W. Hope*.



Sp. 10. Doris. *Nigro-cærulescens, nitida, elytris punctato-striatis, maculâ apicis pedibusque pallidis.* (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

El. Doris. Illiger.—Lo. Doris. *Steph. Catal. p. 39. No. 387.*

Shining blue-black: head with two parallel frontal sulci: thorax very glossy, with a moderate dorsal line and two basal impressions, one on each side: elytra deep bluish-black, shining, punctate-striated, with a testaceous spot near the apex: legs pale testaceous: body black: antennæ fuscous, with the base testaceous.

This, which appears to be the true Ca. Doris of Illiger and Panzer, is far from an uncommon species in Battersea-fields, where it has been taken abundantly by Messrs. Waterhouse and Westwood.

Sp. 11. Spencii. *Nigro-cærulescens, nitida, elytris punctato-striatis, apice piceo, fronte sulcis duobus parallelis, pedibus antennarumque basi rufis.* (Long. corp. $1\frac{3}{4}$ lin.)

Ocys Spencii. Kirby MSS.—Lo. Spencii. *Steph. Catal. p. 40. No. 388.*

Shining blue-black: head with the frontal sulci parallel: thorax convex, slightly glossy, smooth, with a faint dorsal line, and a simple impression on each side at the base: elytra rather shining; deep black-blue or violaceous; somewhat deeply punctate-striated, especially at the base, the striæ vanishing before the apex, which is piceous: legs bright rufous: basal joint of the antennæ the same, the rest dusky.

This and the three preceding insects rather depart from the habit of the genus, and may probably hereafter be associated together under a distinct appellation: the thorax is less convex anteriorly, and the hinder angles more obvious than in the typical species, Lo. quadrimaculatus.

My specimens of this insect I caught in Battersea-fields many years since, and compared with Mr. Kirby's in 1821, with which they appeared to correspond. Mr. Kirby's insects were found in Suffolk.

GENUS LXXII.—TACHYPUS, *Megerle.*

Pulpi moderate; *external maxillary* with the second and third joints of nearly equal length, the latter very pilose, attenuated at the base, rather suddenly clavate, the terminal joint extremely minute, truncate; *labial* as in *Lopha*: *labrum* transverse, entire: *mandibles* rather elongate, slightly bent, acute: *mentum* anteriorly emarginate, the emargination with an obtuse lobe. *Antennæ* with the two basal joints naked; the rest pubescent; third joint longest, the rest gradually decreasing; the eighth, ninth, and tenth being very short: *head* large: *eyes* rather prominent: *thorax* cordate-truncate, somewhat convex anteriorly, attenuated posteriorly, sessile: *elytra* elongate, ovate, sometimes a little dilated: *anterior tarsi* of the males with the two basal joints dilated.



Tachypus evidently comprises insects of two very dissimilar forms, the first of which approximates very closely to the four last-described species of *Lopha*, the other to the true *Bembidia*: in the former the thorax has the posterior angles scarcely deflexed, and rather prominent, while the latter has them much deflexed and obtuse. The genus may, however, be known from the preceding by the greater depression of the thorax, and from its being sessile; and from *Bembidium* by the smallness of the eyes: the species affect damp sandy districts.

A. With the hinder angles of the thorax scarcely deflexed, somewhat prominent: body not very broad.

Sp. 1. celer. *Æneus nitidus*, *antennis fuscis*, *pedibus piceo-ferrugineis*, *elytris punctato-striatis*. (Long. corp. $1-1\frac{1}{4}$ lin.)

Ca. celer. *Fabricius*.—Ta. celer. *Steph. Catal. p. 40. No. 399.*

As small again as the next, but very closely allied; it is of a brilliant glossy brass above: the head has the two usual frontal sulci: the thorax is very glossy, has a slight dorsal line, and an impression on each side at the base, rarely connected by a transverse series of impressions: the elytra rather deeply punctate-striated, the striae vanishing considerably before the apex: abdomen beneath blackish-bronze: legs pitchy-red, with the tibiae palest, and sometimes testaceous: the femora often dusky: tarsi and antennae the same.

The great disparity of bulk, and the absence of intermediate sizes between this insect and the following, sufficiently indicates their distinction, which was first pointed out by Count Hoffmansegg.

Extremely abundant throughout the metropolitan district, especially in the damp sandy places near Ripley. "Oxford."—*Rev. F. W. Hope*, and *Mr. Westwood*.

Sp. 2. properans. *Æneus nitidus*, *thorace glaberrimo*, *pedibus piceo-rufis*, *elytris subtilissimè punctato-striatis*. (Long. corp. $1\frac{1}{2}-1\frac{3}{4}$ lin.)

Be. properans. *Hoffmansegg*.—Ta. properans. *Steph. Catal. p. 40. No. 398.*

Larger than the last, which it too closely resembles; above of a brilliant rich coppery brass: head with two frontal sulci: thorax very glossy, with a very faint dorsal line; the base on each side with a deep impression, united by a transverse row of impressed points: elytra rather faintly punctate-striated, the striae vanishing a little before the apex: body beneath black: legs generally pitchy-red; the femora sometimes dusky: antennae dusky.

This is the *Ca. rufipes* of Marsham, a name necessarily changed by Hoffmansegg, in consequence of Illiger having previously described an insect, belonging to the present family, by the same appellation.

Not uncommon near London. "Spitchweek, Devon."—*Dr. Leach*. "Netley, Salop."—*Rev. F. W. Hope*.

Sp. 3. *acutus*. *Nigro-æneus, nitidissimus, elytris subattenuatis acutis, tibiis pallidis*. (Long. corp. $1\frac{3}{4}$ lin.)

Ca. *acutus*. *Marsham*.—Ta. *acutus*. *Steph. Catal. p. 41. No. 400.*

Entirely of a brilliant glossy bronzed-black, shining, as if varnished: the elytra rather attenuated and pointed, punctate-striated, the striæ not reaching to the apex: legs pitchy-brass; the tibiæ pale testaceous: antennæ fuscous, with the base reddish.

I strongly suspect that this supposed species is merely an immature state of the preceding. I have the original pair from Mr. Marsham's cabinet, and one that I captured myself near London.

Sp. 4. *chalcus*. *Suprà virescente-æneus, antennis pedibusque piceis, elytris subtiliter punctato-striatis*. (Long. corp. 2 lin.)

Ta. *chalcus mihi*.—*Steph. Catal. p. 41. No. 402.*

Similar to the foregoing, but the antennæ and legs differently coloured, the elytra without impressed spots, &c. Bright brassy, shining; head with two rather shallow parallel frontal sulci: thorax slightly convex, with a faint dorsal line, the base with an impressed striola on each side: elytra bright glossy brass, finely striated, the striæ punctate, and not reaching to the apex: legs pitchy: tibiæ and tarsi sometimes rather paler: antennæ pitchy, with the base palest.

The upper surface is sometimes greenish or bluish.

A few specimens caught by myself near London, which appear dissimilar to any of the preceding, being considerably larger, and differing in other points as above described.

Sp. 5. *orichalcicus*. *Suprà æneus, antennarum femorumque basi tibiisque testaceis, elytris subtiliter punctato-striatis, punctis duobus impressis*. (Long. corp. 2 lin.)

El. *orichalcicus*. *Illiger?*—Ta. *orichalcicus*. *Steph. Catal. p. 41. No. 401.*

Rather larger than the foregoing; of a shining greenish-brass: head rather cupreous, with two parallel frontal sulci: thorax virescent, with a faint dorsal line, and a very deep fovea on each side at the base: elytra bright coppery or greenish brass, with two obsolete impressed dots; faintly punctate-striated, the striæ not reaching to the apex, which is very smooth: body pitchy-brass beneath: legs pitchy-testaceous; femora sometimes pitchy: antennæ with the base testaceous; the apex dusky.

I am not certain whether this is referable to the *Elaphrus orichalcicus* of Illiger; it decidedly is not of Duftschmid; though it accords with Panzer's figure, which professes to be a representation of Illiger's insect: but not having this last author's work, I cannot determine the point: it is very closely allied to the two foregoing.

Taken in the neighbourhood of London, and near Swansea.



Sp. 6. bipunctatus. *Supra orichalcicus, nitidus, elytris subdepressis, tenuis punctato-striatis, foveolis duabus disci profundè impressis.* (Long. corp. $2\frac{1}{4}$ lin.)

Ca. bipunctatus. *Linne.*—Ta. bipunctatus. *Steph. Catal. p. 40. No. 397.*

Above shining brassy, or greenish-brass, rarely bluish: head a little rugose, with two frontal sulci; the crown and space between the latter rather smooth: thorax moderately convex, with a dorsal channel, very obsoletely striolated transversely, the margin depressed, deeply punctated, with a small ridge at the hinder angle: elytra rather convex, the back flat, faintly punctate-striated, the striæ not reaching to the apex, the interstices smooth; but between the second and third striæ from the suture are two rounded, rather deep, remote, coppery-brass, foveolæ: abdomen glossy blue-black: legs black, glossed with æneous: antennæ and palpi blackish-brass.

Not very common, frequenting damp and sandy places: I have found it occasionally at Darent-wood, and once or twice near London. "Two specimens taken on the bank of a pond on Wandsworth-common in April last."—*Mr. Ingpen.* "Netley, Salop."—*Rev. F. W. Hope.*

B. With the hinder angle of the thorax deflexed, obtuse: body very broad.

Sp. 7. chlorophanus. *Æneo-virescens, capite thoraceque punctatis, elytris punctato-striatis, antennis pedibusque brunneo-flavis.* (Long. corp. $2\frac{1}{2}$ lin.)

Be. chlorophanus. *Sturm.*—Ta. chlorophanus. *Steph. Catal. p. 40. No. 396.*

Similar to the last, but of a bright green above, and without the dorsal impressions on the elytra: the prevalent hue above is bright brassy-green; the head and thorax are punctate, as in Ta. striatus; the impressions are larger, the frontal sulci less curved, and the dorsal line on the thorax more faintly impressed: the elytra are rich bronzed green, and regularly punctate-striated to the apex: the legs and antennæ are yellowish-red, the tips of the joints of the latter, and the tarsi dusky.

Taken in the north of England: on the coasts of Lancashire and Cumberland.

Sp. 8. striatus. *Orichalcicus, capite thoraceque punctatis, elytris punctato-striatis, punctis impressis duobus, pedibus rufo-flavescentibus.* (Long. corp. $2\frac{1}{2}$ lin.)

El. striatus. *Dufschmid.*—Ta. striatus. *Steph. Catal. p. 40. No. 395.*

Of a rich bronze or brassy-black: head and thorax thickly punctate, the former with two rather faint curved frontal sulci, the latter with a deep abbreviated dorsal line, the base slightly impressed transversely, but without any fovea near the angles: elytra sometimes bright brassy (especially in the males), punctate-striated, the striæ reaching to the apex, and between the third and fourth from the suture two large impressed dots: body beneath greenish-brass: legs rufescent, or pitchy: the femora often pitchy-bronze: antennæ also rufescent at the base; the apex dusky.

This appears to be a common species in the northern counties of England, and the southern parts of Scotland, but does not occur in the south of England. "Near Carlisle on banks of rivers, and near the Canon-mills, Edinburgh."—*Dr. Leach*. "Midgley-moor, near Halifax."—*Mr. Gibson*. "Netley, Salop."—*Rev. F. W. Hope*.

Sp. 9. Andreae. PLATE X. f. 6. *Virescente-cupreus, nitidus, antennis pedibusque pallidis, elytris latis albidis, fasciâ communi abbreviatâ fusco-ænea.* (Long. corp. $2\frac{1}{4}$ — $2\frac{1}{2}$ lin.)

Ca. Andreae. *Fabricius*.—Ta. Andreae. *Steph. Catal. p. 40. No. 394.*

Shining, greenish-copper: head rather deeply punctate, especially on the sides: thorax with the disc smooth, faintly channelled, the base transversely impressed and punctate: elytra short, broad, oval, somewhat convex, regularly punctate-striated, the striæ vanishing before the tip, the interstices very smooth; entirely of a pale whitish ochraceous, glossed with greenish round the scutellum, and a little behind the middle a waved dentate transverse brown fascia, common to both elytra, glossed with greenish in certain positions, and not touching either margins; in the middle of each elytron it is anteriorly produced: legs and antennæ entirely pale testaceous.

In living specimens the elytra are said to be nearly white.

Evidently a littoral insect, being chiefly found near the mouths of great rivers: it, however, occurs on various parts of the coast, and has been taken on those of Norfolk, Suffolk, &c. "On the shores of the Ex, near Exmouth."—*W. Spence, Esq.*—"Near Dublin."—*N. A. Vigors, Esq.*—"Aldborough, Suffolk."—*Rev. F. W. Hope*.

GENUS LXXIII.—BEMBIDIUM *Auctorum*.

Palpi rather slender; *external maxillary* with the second and third joints nearly equal, the latter not much stouter than the former, slightly subclavate and pilose, the terminal short, truncate-conic; *labial* with the terminal joint rather elongate, the preceding slightly clavate, with a few hairs: *labrum* transverse, entire: *mandibles* short, acute, bent: *mentum* emarginate anteriorly, the notch with an acute central tooth. *Antennæ* with the two basal joints, and base of the following, naked, the rest pubescent: *head* porrect, ovate: *eyes* very large and prominent: *thorax* rather narrower than the head, cordate-truncate, attenuated posteriorly: *body* slightly depressed: *elytra* ovate, retuse at the base, pubescent: *legs* rather long, slender: *anterior tarsi* of the males with the basal joint dilated.

The great bulk of the eyes at once distinguishes this genus from the other Bembidiidæ, and shows its connexion with the Elaphridæ; other characters, however, discriminate the genus, some of the species having the elytra clothed with pubescence, while the



rest have them adorned with various elevations and depressions, as in *Elaphrus*: they frequent damp sandy situations, chiefly on the coast.

‡ Sp. 1. *paludosum*. *Fusco aut cupreo-æneum, elytris subtiliter punctato-striatis, foveolis impressis duabus quadratis aurato-viridibus.* (Long corp. $2\frac{1}{2}$ — $2\frac{3}{4}$ lin.)
El. *paludosus*. *Panzer*.—Be. *paludosum*. *Steph. Catal. p. 41. No. 403.*

Broader and larger than the other indigenous species: head, thorax, and elytra brassy: antennæ fuscous: head smooth: thorax with an impressed stria in the middle: elytra punctate-striated; with several remote, smooth, obscure spots between the striæ, and two quadrate golden ones on each elytron between the first pair of striæ: legs golden: body beneath obscure æneous.

Very few indigenous specimens are preserved in collections; there is a fine series in the British Museum cabinet, taken by Dr. Leach at Swansea. Mr. Haworth has one, found, I believe, in Yorkshire. “Near Berkeley-castle, Gloucester.”—*Rev. F. W. Hope.*

Sp. 2. *impressum*. *Virescente-æneum, subopacum, elytris tenuè punctato-striatis, foveolis duabus subquadratis pallide aureis, maculâ cyanellâ distinctis.* (Long corp. $2\frac{1}{4}$ lin.)

El. *impressus*. *Fabricius*.—Be. *impressum*. *Steph. Catal. p. 41. No. 404.*

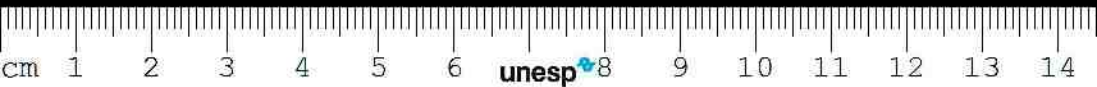
Greenish-brass, slightly glossy, and thickly punctulate: head porrect, with an impressed line on each side between the eyes: thorax rather convex, æneous, transversely impressed at the base and apex, and faintly channelled down the centre: elytra much broader than the thorax, slightly convex, opaque greenish-brass, regularly but faintly punctate-striated, with an oblong slightly impressed pale golden fovea towards the middle of each elytron, between the second and third striæ, and another towards the apex, the space between, before, and behind, violet, and slightly elevated: body beneath of a shining blue-brass: legs pale rufescent, with the tips of the femora æneous, and the tarsi obscure: the antennæ fuscous, with the first joint and base of the three following testaceous.

Of this insect, which is the *Cicindela striata* of Marsham, I have hitherto seen only my own injured specimen, which I obtained from that gentleman's collection: I am, however, ignorant of its locality.

Sp. 3. *flavipes*. *Fusco-æneum, subpubescens, elytris vagè punctatis griseo-nebulosis, antennarum basi, palpis pedibusque pallidis.* (Long. corp. 2 — $2\frac{1}{2}$ lin.)

Ci. *flavipes*. *Linne*.—Be. *flavipes*. *Steph. Catal. p. 41. No. 405.*

Brownish-brass, slightly pubescent: head large, depressed, thickly punctulated, with a transverse line between the eyes: thorax above convex, thickly punctated, with an obsolete dorsal line: elytra slightly convex, rather irregular, thickly but strongly punctated throughout, of a brownish-copper, clouded



with griseous pubescence; towards the suture, on the disc, are two impressed dots on each elytron, one towards the apex, the other rather before the middle: body smooth, glossy, bluish-green or coppery, beneath: legs testaceous-yellow: antennæ pale testaceous at the base, dusky towards the apex: palpi yellowish.

Common in banks by the sides of ponds, &c. round London. "Very abundant in a gravel-pit in Kensington-gardens, in May and June."—*Mr. Ingpen*. "Netley, Salop, and Gravesend."—*Rev. F. W. Hope*.

Sp. 4. pallipes. *Cupreo-æneum, subpubescens, elytris viridi-irroratis sublævibus, antennis pedibusque pallide testaceis.* (Long. corp. $2\frac{3}{4}$ —3 lin.)

Ca. pallipes. *Duftschmid.*—Be. pallipes. *Steph. Catal. p. 41. No. 406.*

Coppery-brass, slightly pubescent: head depressed, thickly punctate: thorax slightly convex, thickly and finely punctate, with a rather strong dorsal line, the hinder angles greatly depressed: elytra rather smooth, irrorated with greenish, finely and thickly punctate, and obsoletely striated on the back; with two impressed dots on each between the second and third from the suture: body greenish-bronze beneath: legs and antennæ pale testaceous, the latter rather dusky towards the apex, and with their basal joint bronzed-green.

Apparently scarce or very local: I have seen, comparatively, very few specimens, most of which were caught near Cromer, in Norfolk. "Cromer and Swansea."—*Dr. Leach*. "Aldborough, Suffolk."—*Rev. F. W. Hope*.

FAMILY VII.—ELAPHRIDÆ *mihi*.

Antennæ very short, stout: *palpi* with the last joint elongate-obconic, or stout and tumid: *labrum* entire, slight or rounded anteriorly: *mandibles* simple: *maxillæ* without an articulated claw at the apex: *labial palpi* with three distinct joints: *mentum* emarginated, with a bifid central tooth: *eyes* large: *anterior tibiæ* not emarginated.

The Elaphridæ chiefly differ from the preceding families by the brevity and stoutness of the antennæ: but there are several other very obvious characters which, taken collectively, sufficiently indicate their distinction: they approximate to the Cicindelidæ and Carabidæ by the integrity of the interior tibiæ; from the former they differ by wanting an articulated claw at the tip of the maxillæ, and from the latter by the brevity of the antennæ.

The three following genera occur in Britain, and may be thus known:



Palpi articulo ultimo	{	breve, subtumido:	74. NOTIOPHILUS.
		elongato, obconico: thorax	rotundatus: 75. ELAPHRUS.
			quadratus: 76. BLETHISA.

GENUS LXXIV.—NOTIOPHILUS, *Dumeril*.

Palpi, external maxillary, and labial with the last joint short, slightly tumid, subovate, truncate: *labrum* entire, rounded, nearly covering the *mandibles*, which are not dentate internally: *mentum* emarginate anteriorly, with a bifid central lobe. *Antennæ* slender, slightly thickened towards the extremity: *head* deeply sulcated between the eyes: *eyes* large, not very prominent: *thorax* quadrate, flat, as broad as the head: *elytra* depressed, elongate, and nearly parallel: *legs* rather slender: *anterior tarsi* of the males not dilated.

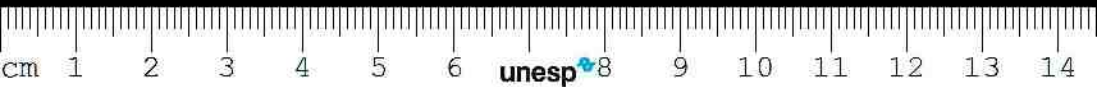
Notiophilus differs from *Elaphrus* by its elongate depressed body; the less projecting mandibles; deeply sulcated forehead; large but scarcely prominent eyes; narrow, rounded, and advanced labrum; and shorter and swollen terminal joint to the palpi: the elytra are also flat, with a very smooth longitudinal space on the disc. The species greatly resemble each other; they are lively and active; occur usually beneath stones, in damp and gravelly places, or at the roots of trees. It is probable that we have more than two species in Britain, but I have not yet ascertained the point.

Sp. 1. aquaticus. *Supra æneus, fronte profundè striatà, elytris punctato-striatis, plagâ longitudinali ad suturam apiceque politis, punctoque impresso.* (Long. corp. $2\frac{1}{2}$ —3 lin.)

Ci. aquatica. *Linne.*—*Don.* viii. pl. 351. f. 2.—No. aquaticus. *Steph. Catal.* p. 41. No. 407.

Above of a bronzed copper, more or less dusky: head very deeply sulcated between the eyes: palpi dusky: thorax about as broad as the head, nearly smooth on the disc, the margin deeply punctate throughout; with a faint longitudinal dorsal line, and a slight transverse impression at the base, and another on each side towards the hinder angles: elytra elongate, each with eight deep punctate striæ; the first towards the suture; the six following close to each other, leaving a broad highly polished space between them and the sutural stria; the eighth on the outer margin, rather faint, and nearly approximating to the other; they vanish before the apex of the elytra, except the sutural one and the seventh; on the disc is an impressed dot between the third and fourth striæ: the body beneath, and legs, are deep bronzed-black. The colour of the upper surface varies slightly.

A very common species in Britain, frequenting sand and gravel-pits: I have taken it abundantly at Hertford, Ripley, Hampstead, &c.



Sp. 2. *biguttatus*. *Supra æneus, nitidus, fronte profundè striatâ, thorace omninò punctato, elytris profundè punctato-striatis, plagâ longitudinali nitidissimâ ad suturam, apice flavescente, punctoque impresso.* (Long. corp. 2—2½ lin.)

El. *biguttatus*. *Fabricius*.—No. *biguttatus*. *Steph. Catal. p. 41. No. 408.*

Closely allied to the last; it is however of a smaller size, and the colour is more brilliant and glossy: the thorax has the disc and margins punctate: the striæ on the elytra are more evident and deeply punctate, and prolonged towards the apex; the polished space on the disc is rather narrower, and more brilliant; the discoidal impression is deeper, and placed more posteriorly on the elytra, and there is an obsolete one towards the apex, which latter is of a pale testaceous, more or less distinct: the base of the antennæ and the middle of the tibiæ are testaceous yellow or reddish.

Var. β . With the upper surface of a very brilliant violet-blue.

There are several other variations of hue, but none very conspicuous.

Far from uncommon throughout the metropolitan district, and I believe frequently taken in other parts. Var. β was taken in Scotland by Mr. Dale, who supplied me with a specimen.

GENUS LXXV.—ELAPHRUS, *Fabricius*.

Palpi, external maxillary, and labial elongate-ovate, truncate; the terminal joint longer than the preceding: *labrum* transverse, short, straight anteriorly, covering the *mandibles* at the base only; the latter denticulated at the base: *mentum* slightly emarginate anteriorly, with a bifid lobe in the centre of its notch. *Antennæ* rather stout, slightly striated at the extremity: *eyes* very large, and prominent; *thorax* convex, dilated at the sides: *elytra* very convex, mamillated, the sides rather dilated: *legs* moderate: *anterior tarsi* of the males with four slightly dilated joints.

Elaphrus is to be distinguished from *Notiophilus* by the brevity of the labrum, which merely covers the base of the mandibles, by the difference in the proportion of the palpi, the dilatation of the sides of the elytra, and the mamillated impressions with which the latter are adorned: the form of the thorax is also different, and the eyes very large and prominent. The species usually frequent damp places by the sides of ponds, rivers, &c. and are to be seen running on the dry mud banks, hiding themselves in the fissures, beneath stones, plants, &c.

Sp. 1. *uliginosus*. *Viridi-æneus, thorace capite latiore, elytris maculis rotundatis violaceis quadruplici serie, tibiis nigris.* (Long. corp. 4—4½ lin.)

El. *uliginosus*. *Fabricius*.—*Curtis*, iv. pl. 179.—*Steph. Catal. p. 41. No. 409.*

Brassy-green, bright green, or bronzed: head deeply punctate, with a slight transverse impression between the eyes, and a deep longitudinal one on each

side in front: thorax rather broader than the head, convex, deeply punctate, with a deep dorsal channel furcate anteriorly, and terminating abruptly posteriorly; on each side are several deep impressions: elytra broader than the thorax, convex, finely punctate, each with four rows of catenulated impressions, interrupted by smooth glossy violaceous spaces; these series are separated by a slightly elevated ridge: body beneath bronzed green: thighs the same or coppery: tibiæ and tarsi dusky blue.

I first detected a third species of *Elaphrus* in the British cabinets, and pointed out the fact to Messrs. Cooper, Curtis, and Ingpen, from my own collection, which at the time contained no less than six specimens of the present species, varying considerably in size and colour; some being of a very rich metallic green above, others bronzed-green, and some coppery; but all possessing bluish-black tibiæ, and agreeing with each other in the form of the thorax and in sculpture.

It has been stated that this species appears peculiar to the metropolitan district, but two of my specimens were taken near Swansea, and one in Devonshire, in 1812; the others were captured by myself in a wet path in the hollow, beneath the "gallery," at Coombe-wood, in June 1814, where the species appeared at that period to be in considerable plenty. "Once taken at the root of a willow near Chelsea, in September, 1824."—*Mr. Ingpen.*

Sp. 2. cupreus. *Cupreo-æneus, thorace latitudine capitis, elytris maculis rotundatis violaceis quadruplici serie impressis, tibiis ferrugineis.* (Long. corp. $3\frac{1}{4}$ —4 lin.)

El. cupreus. *Megerle.*—*Steph. Catal. p. 42. No. 410.*

Above glossy brass, obscurely tinged with greenish: head thickly punctate, with an arched impression between the eyes; two larger beneath, and a transverse frontal line: thorax above convex, punctate, with a deep anteriorly furcate dorsal line, and some deep impressions on the disc, the latter not touching the base, which is rather distant from the elytra, the latter above convex, of a dusky-brass, thickly, but irregularly punctate, each with four rows of large violaceous-green circular impressions, interrupted by polished brassy spaces, those towards the suture being largest and subquadrate: body glossy greenish-brass beneath: thighs greenish-brass, with the base somewhat testaceous; the tibiæ pale testaceous, with the apex and tarsi blue-black: antennæ greenish-brass at the base, dusky at the apex.

Differs a little in colour, being sometimes of a dusky, and at others of a brilliant greenish-brass.

Common in several places near London, especially in Battersea-fields, where I have very frequently taken it, and in Copenhagen-fields, at Hampstead, Hertford, &c. It also abounds near Whittlesea Mere. "Carlisle."—*T. C. Heysham, Esq.*



Sp. 3. riparius. *Æneo-virescens, punctatissimus, thorace subfoveolato, elytris mamillis cupreo-æneis, circulo impresso cinctis, quadruplici serie.* (Long. corp. 3— $3\frac{1}{2}$ lin.)

Ci. riparia. Linné.—Don. ix. pl. 301. El. riparius. Steph. Catal. p. 42. No. 411.

Dull greenish-bronze: head very thickly punctate: thorax above convex, thickly punctate, with an abbreviated dorsal channel, anteriorly furcate, and an oblong fovea on each side posteriorly: elytra ovate, slightly convex, greenish-brass or dull brownish-bronze, thickly punctate throughout; each with four rows of catenated striæ, as in the two preceding species, but less profound, and the colours rather different, the centre of each circle being purplish, the margin brassy, the elevated patches between are rather obsolete, the four nearest the suture being most evident, quadrate, and of a polished brass: body beneath glossy greenish-brass: thighs the same, the base frequently testaceous; tibiæ testaceous, with the apex and tarsi greenish-brass.

The colour of the upper surface varies greatly, from various shades of light greenish-brass to dusky; sometimes purplish, with violet patches between the striæ on the elytra.

Abundant in several places near London, especially in Copenhagen and Battersea-fields; also at Coombe-wood, on the banks of the Thames, near Putney, Richmond; at Hertford, Ripley, &c.; in Glamorganshire, and near Bristol, and in Devonshire.

GENUS LXXVI.—BLETHISA, Bonelli.

Palpi, external maxillary, and labial elongate-ovate, truncate, the two last joints of equal length: *labrum* transverse subtrilobate: *mandibles* bent, acute, obscurely denticulated internally at the base: *mentum* deeply emarginate anteriorly, the emargination with a slightly produced bifid lobe. *Antennæ* stout, the three basal and base of the fourth joints naked, the rest pubescent: *eyes* rather large, slightly prominent: *thorax* subquadrate, truncate, the sides slightly rounded: *elytra* very convex, with impressed dots, elongate-ovate: *legs* rather stout: *anterior tarsi* of the males with four dilated joints.

Bonelli judiciously separated *Blethisa*, as a genus, from the other *Adephaga*, in which subsequent writers have followed him. Latreille, in his genera, &c. and Gyllenhal, associated it with *Nebria*; Dr. Leach, however, distinguished it from that genus by the name *Helobium*, in the Edinburgh Encyclopædia, without being aware of Bonelli's arrangement: its location has also been frequently altered, but I presume that its nearest affinity is *Elaphrus*, from which it differs chiefly by having the third and fourth joints of the external maxillary and labial palpi of equal length, the labrum rather trilobate, the mentum more deeply notched anteriorly, with a moderately-produced bifid central lobe: it also differs in its qua-

drate thorax, deeply excavated and more convex elytra, and in other less conspicuous characters.

Sp. 1. multipunctata. *Nigro-ænea, nitida, limbo virescente, elytris punctato-striatis, foveolisque duplici serie impressis.* (Long. corp. $5\frac{1}{4}$ —7 lin.)

Ca. multipunctatus. *Linne.*—Bl. multipunctata.—*Steph. Catal.* p. 42. No. 412.

Of a deep blackish-bronze, slightly glossy, with the margins of the thorax and elytra bright-green or coppery: head with a deep sinuated impression on each side between the eyes, and a shallow transverse one behind; the nape with a few impressed dots: thorax shining, with some obsolete transverse wrinkles, and the margins more or less punctate; the dorsal line rather deep and abbreviated anteriorly, with a transverse impression posteriorly, bordered externally by an elevated fold: elytra slightly but irregularly punctate-striated, each with two series of deep, impressed, shining, brassy foveæ, the first placed on the third, and the second on the fifth, interstice from the suture: body dusky or coppery-brass beneath: legs black, tinged with brassy.

Rather uncommon: I have taken a few specimens in Copenhagen-fields, running on the dry mud of ponds in the summer, and also on a bank in Battersea-fields. I believe it occurs on the borders of Whittlesea Mere, and near Horning, in Norfolk.

The aquatic Adephaga, or

Subsection II. HYDRADEPHAGA, *Mac Leay*,

Are thus, in general terms, characterized by him:—*Legs* formed for swimming, the hinder having a horizontal motion only, the pectoral laminae into which they are inserted being large: *body* ovate. *Latreille*, less generally, says, *legs* proper for walking and swimming, the four posterior being compressed and fringed; the *mandibles* scarcely exerted; the *body* oval, with the *eyes* slightly prominent, and the *thorax* broader than long: the *hook* at the extremity of the maxillæ curved at the base.

The insects of this subsection differ chiefly from the former in habit, from the element in which they reside being different; but their devouring propensities are equal, if not superior, to any of the foregoing, the larger and more typical species especially, which are pre-eminently distinguished by their voracity and destructiveness: they all inhabit the water in their first and final states, and subsist upon other aquatic insects, vermes, &c.; they swim admirably in the water, but are compelled at intervals to ascend to the surface for respiration; when they may be observed, resting obliquely, with the extremities of their elytra raised a little above



the surface, to admit the supply of air to reach the tracheæ or spiracles, which supply enables them to descend, and to pursue their subaqueous avocations for some considerable period. Towards evening, they may be frequently observed upon the wing, and they not uncommonly fly towards a lighted candle, after the manner of a moth.

Their larvæ are long and narrow, composed of twelve segments, of which the first is largest, with a strong scaly head, furnished with two powerful curved mandibles, pierced towards the points, two short antennæ, palpi, and six minute shining eyes on each side: their legs are very long, pilose, and terminate in two small claws. They are very active, carnivorous, and voracious; reside, as before-stated, in the water, which they quit previously to their transformation into pupæ: which process they undergo in an oval cell, formed by themselves, a few inches beneath the surface, on the borders of ponds, ditches, &c.

The two families into which I shall divide this subsection may be readily known by the subjoined characters:

<i>Antennæ</i> {	longiores, setacæ:	8. DYTICIDÆ.
	breves, clavatæ:	9. GYRINIDÆ.

FAMILY VIII.—DYTICIDÆ, *Leach*.

Antennæ setaceous, rather elongate: *body* ovate, or oval, anteriorly and posteriorly rounded: *thorax* short, transverse: *legs* generally formed for swimming, the posterior usually deeply ciliated, with broad, flat tarsi, terminating in a point: in the males, the anterior tarsi are more or less dilated; and some females have the elytra deeply sulcated.

The Dyticidæ, or *water-beetles*, differ considerably in appearance from the preceding insects, nevertheless they possess many characters in common, and have considerable resemblance in their habits, as before-stated; but, in lieu of residing upon land, they inhabit the water: their larvæ are elongate, swollen in the middle, with the extremities more slender, especially behind, the two caudal segments forming an elongate cone, fringed with hairs, and terminating generally with two conical and moveable appendages, between which are two perforated cylindric tubes, communicating with the respiratory organs; the head is large, oval, distinct; the mandibles much bent and pierced near the apex; the three first segments of the body have each a pair of elongate legs, having the



shanks and tarsi fringed with hairs; the first segment is largest, and armed above and below with a scaly plate: these larvæ subsist chiefly upon those of the Libellulidæ, Agrionidæ, Ephemèridæ, Culicidæ, and Tipulidæ, which they seize and retain with their powerful jaws, and extract their juices through their perforated extremities: they swim with facility by means of the ciliated legs; and, like the imago, are compelled to approach the surface of the water occasionally to respire, where they suspend themselves by means of the caudal appendages, leaving the tip of the cylindrical tubes exposed to the atmosphere; when ready to undergo their change, they seek for a convenient spot in the neighbouring banks, and form an oval cavity, in which they become pupæ, and remain in that state from fifteen to twenty days, when the imago is produced: the latter chiefly occurs from April to August.

The indigenous genera which have come beneath my observation may be thus discriminated from each other:

Scutellum	nullum: Tarsi	4-antici 4-articulati: Ungues	postici monodactyli: . . .	79. HYPHIDRUS.
				omnes didactyli: Corpus
	omnes 5-articulati: Pedes	Antennæ	natatorii: { in medio dilatata: . . .	80. HYGROTUS.
				depressum: . . . 81. HYDROFORUS.
	omnes didactyli: Pedes	Antennæ	gressorii: . . .	82. NOTERUS.
				simplices: . . . 83. LACCOPHILUS.
distinctum: Ungues	omnes didactyli: Pedes	Antennæ	gressorii: . . .	77. HALIPLUS.
				78. PÆLOBIUS.
	natatorii: Palpi maxillares cæterni articulis 2 et 3	Palpi maxillares cæterni articulis 2 et 3	æqualibus, { obtuso: 84. COLYMBETES.	
				4-to apice { subulato: 85. AGABUS.
	postici monodactyli: . . .		inæqualibus, { subulato: 86. HYDATICUS.	
				4-to apice { rotundato: 89. ACILIUS.
				88. CYBISTER.

GENUS LXXVII.—HALIPLUS, Latreille.

Palpi, external maxillary, and labial, with the terminal joint minute, subulated, the preceding elongate, clavate; the first and second very short: *labrum* emarginate anteriorly: *mandibles* short, triangular, internally excised at the apex: *mentum* transverse, anteriorly tridentate, the central tooth shortest. *Antennæ* linear, apparently 10-jointed, the basal joint minute, the fourth shortest, the terminal elongate, acute: *head* ovate, exserted: *eyes* moderately prominent: *thorax* with its base triangulate, the central angle occupying the

situation of the scutellum: *body* oval, convex, posteriorly attenuated: *legs* long, slender, gressorial: the posterior femora covered at the base with a broad shield-like lamella: *claws* didactyle.

Haliplus consists of several insects, which vary much amongst each other, and differ in such trifling particulars, that it is very probable some of the apparent species and varieties are not distributed strictly in accordance with their natural distinctions: the genus bears considerable affinity to the *Bembidiidæ* in the structure of the palpi, the terminal joint being very small and subulated, in which particular it may be known at once from the other *Dyticidæ*; it also differs essentially from the rest of the family by the magnitude of the laminae which cover the posterior femora, the short, and apparently ten-jointed, antennæ, and in other less important characters, and it may probably form the type of a new family of *Hydradeplaga*, approximating closely to the genus *Omophron* (amongst the *Elaphridæ*?) a genus which has not hitherto been discovered in Britain.

A. Elytra with elevated lines.

Sp. 1. *elevatus*. *Supra pallidus, elytris convexis punctato-striatis, nigro-lineatis, costa disci elevata abbreviatâ.* (Long. corp. 2 lin.)

Dy. *elevatus*. *Panzer.*—*Ha. elevatus.* *Steph. Catal. p. 42. No. 413.*

Elongate, pale-testaceous: head deep testaceous, convex, punctulated: eyes dusky: thorax transverse, narrower than the elytra, finely but sparingly punctulate, with an impressed line on each side, parallel with the lateral margin: elytra oblong-ovate, dilated at the base, attenuated at the tip, above slightly convex, each with eight elongate and two abbreviated, deeply-punctate striæ, the latter on the shoulders, and all but the two marginal ones dusky; the suture black: the interstices smooth, the third from the suture much elevated anteriorly: body deep testaceous beneath, subpunctate, the base of the abdomen pitchy; the abdominal laminae deeply punctated: legs very long, pale testaceous.

The elytra are more or less suffused with black between the striæ in different individuals.

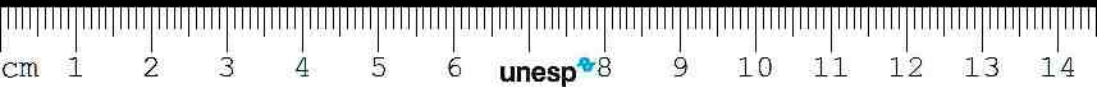
Not very common: occasionally met with in running streams near Bexley.

B. Elytra without elevated striæ.

Sp. 2. *impressus*. *Ovatus, convexus, flavo-testaceus, nitidus, elytris cinereis, profundè punctato-striatis, interstitiis impunctatis, thorace postice transversim profundè impresso.* (Long. corp. $1\frac{3}{4}$ —2 lin.)

Dy. *impressus*. *Fabricius.*—*Ha. impressus.* *Steph. Catal. p. 42. No. 414.*

Ovate, convex, testaceous-yellow: head testaceous, punctulated: thorax flavescent, the disc convex, the base with an arcuated impression, in which is a series of deeply impressed dots, the anterior and posterior margins rather clouded: elytra cinereous, very convex, rather obtuse behind, the apex itself



acuminated; each elytron with ten striæ, composed of deeply-excavated spots, diminishing in size at the apex, the interstices impunctate: body testaceous beneath; the femoral laminae deeply punctate: legs elongate, entirely testaceous.

Var. β . *Steph. Catal.* l. c.—The punctures on the thorax and elytra larger than in var. α ; the suture with a dusky spot in the centre.

Var. γ . *Steph. Catal.* l. c.—The head dusky cinereous, the mouth pitchy.

Var. δ . *Steph. Catal.* l. c.—The head rufo-ferruginous: the elytra immaculate.

Not very abundant near London: found occasionally in ponds and ditches in Battersea-fields, and near Hertford: also found in Norfolk. "Putney and Wandsworth Commons."—*Mr. Ingpen*. "In the pond in the Botanic Garden, Cambridge."—*Rev. L. Jenyns*.

Sp. 3. *mucronatus*. PLATE XI. f. 1.—*Rufo-ferrugineus, nitidus, elytris tenuè punctato-striatis, interstitiis lævigatis, apice mucronato*. (Long. corp. $2-2\frac{1}{2}$ lin.)

Ha. mucronatus. *Leach, MSS.*—*Steph. Catal.* p. 43. No. 415.

Ovate-acuminate; deep rufo-ferruginous; glossy; head slightly punctulate: thorax finely and very thickly punctulate throughout, especially on the hinder margin: elytra faintly punctate-striated, the interstices impunctate, the apex mucronated; the disc convex, immaculate: body beneath pale testaceous-red; the ventral laminae deeply and coarsely punctate: legs and antennæ ferruginous. Distinguished from the following by the absence of punctations between the striæ, the mucro at the apex of the elytra, deeper colour, and totally punctate thorax.

My specimens of this insect were obtained from the neighbourhood of Swansea: I believe the *Ha. ophthalmicus* of Mr. Kirby's MSS. is synonymous; if so, it inhabits the county of Suffolk also. "A single specimen taken at Bottisham."—*Rev. L. Jenyns*.

Sp. 4. *ferrugineus*. *Rufo-ferrugineus, nitidus, elytris profundè punctato-striatis, interstitiis seriebus punctorum minorum*. (Long. corp. $2-2\frac{1}{2}$ lin.)

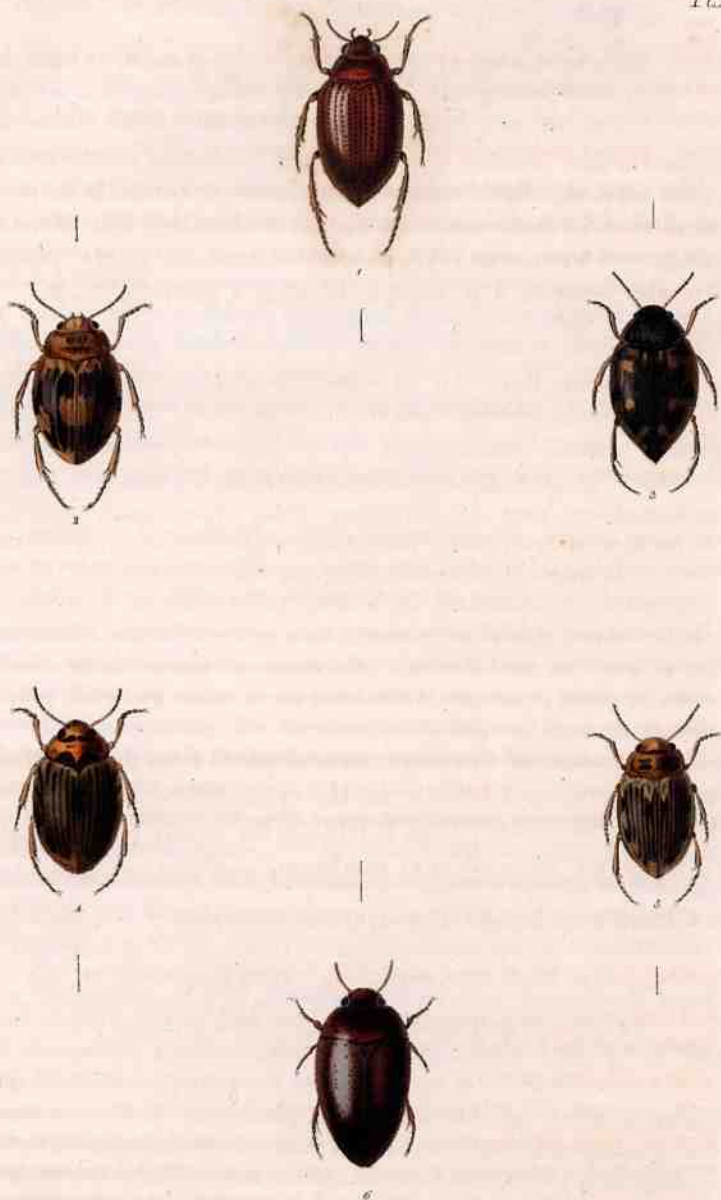
Dy. ferrugineus. *Linne.*—*Ha. ferrugineus*. *Steph. Catal.* p. 43. No. 416.

Ovate acuminate, glossy, ferruginous-red: head finely punctate: thorax ferruginous, with the disc rather smooth, the margins thickly punctate, the base with a transverse streak of impressed dots: elytra ovate, much dilated at the base, the apex obliquely truncate, rather acuminate, each with ten regular punctate striæ, the interstices with a faint row of small remote impressions on each, and a continuous stria of minute approximating dots towards the sutural stria: body deep glossy ferruginous beneath; the central laminae paler, deeply punctate; legs ferruginous.

Var. β . *Steph. Catal.* l. c.—With the striæ dusky, with a few oblong dusky-black spots between.

Var. γ . *Steph. Catal.* l. c.—The elytra dusky, thickly spotted with black in the interstices between the striæ.

PL. XI.

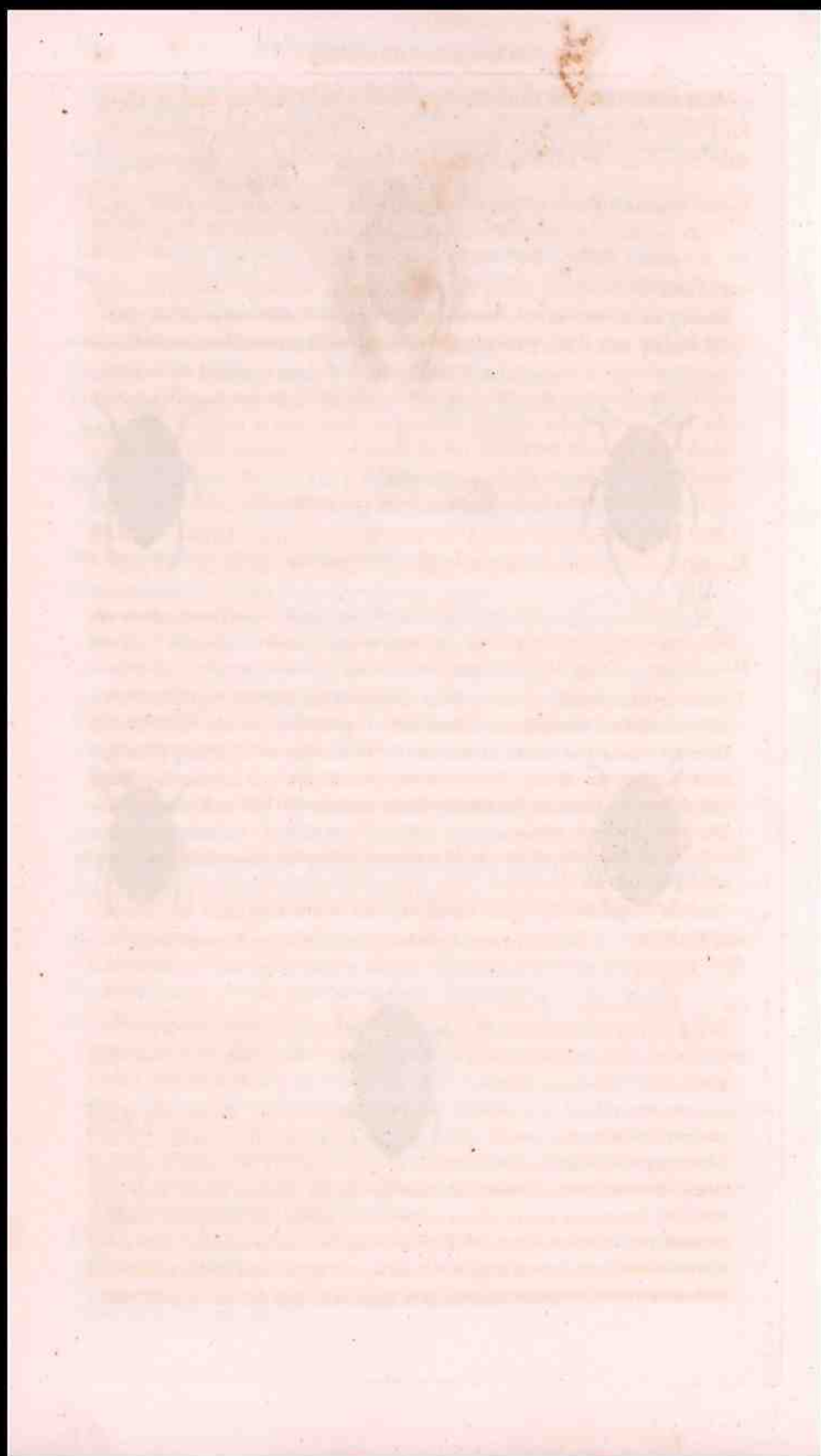


C. M. Curtis. del.

London, Pub. by J. P. Stephens. 1. Oz. 1828

C. Wagstaff. Sc.





Not uncommon in ditches and ponds near London, and at Hertford and Ripley; also in Norfolk. "Wandsworth-common."—*Mr. Ingpen*. "Plentifully at Bottisham."—*Rev. L. Jenyns*.

Sp. 5. obliquus. *Flavo-testaceus, elytris obsolete punctato-striatis, basi, fascia mediâ inequali liturâque intra apicem nigris.* (Long. corp. $1\frac{1}{2}$ —2 lin.)

Dy. obliquus. *Illiger*.—Ha. obliquus. *Steph. Catal. p. 43. No. 417.*

Testaceous yellow; head glossy, finely and thickly punctate, with a blackish streak behind: thorax pale testaceous, the anterior margin more or less dusky, the surface very finely punctate throughout, with a sinuated row of larger impressions at the base, and a straight one at the apex, placed transversely, elytra acuminate, pale-yellowish, rather obsoletely punctate-striated, with the base, an irregular oblique interrupted fascia, and a patch at the apex, black: body glossy testaceous-yellow beneath, the laminae obsoletely punctated: legs and antennæ pale ferruginous.

Var. β . With the spots on the elytra more or less confluent.

Not very common: found in the metropolitan district, and in Norfolk. "Sparingly at Bottisham."—*Rev. L. Jenyns*.

Sp. 6. confinis. *Rufo-testaceus, elytris obsolete punctato-striatis, striis infuscatis, interstitiis immaculatis.* (Long. corp. $1\frac{3}{4}$ lin.)

Ha. confinis. *Kirby MSS.*—*Steph. Catal. p. 43. No. 418.*

Testaceous-red, slightly shining: head obscurely but thickly punctate, dusky behind: thorax ferruginous, immaculate, obsoletely punctate, with an impression behind the centre of the disc: elytra acuminate, faintly punctate-striated, the striæ dusky, the interstices immaculate and impunctate: body rufo-testaceous beneath, the laminae finely punctated: legs and antennæ ferruginous, the latter palest.

Var. β . With the striæ on the elytra transversely fuscous, the colour sometimes confluent towards the apex.

Taken occasionally near London, but more frequent in Norfolk and Suffolk. "Wandsworth-common and Copenhagen-fields."—*Mr. Ingpen*.

Sp. 7. lineato-collis. *Pallide testaceus, thorace lineâ longitudinali nigra, strigâ posticâ lunulisque duabus impressis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Dy. lineato-collis. *Marsham*.—Ha. lineato-collis. *Steph. Catal. p. 43. No. 418.*

Pale-testaceous: head ferruginous, thickly punctate, the vertex sometimes pitchy: thorax rather convex, rather thickly punctulate, the anterior edge and a longitudinal dorsal line dusky-black; near the base is a transverse impressed streak, deepest in the middle, and, near the margin, on each side, a very deep arcuated impressed stria: elytra acuminate, rather convex, pale, shining, striated, the striæ composed of deep impressions, the interstices with a few scattered dots, and several obsolete brown spots; at the base of the fourth and fifth striæ from the suture are two very short and deep oblique striolæ: body



deep-ferruginous beneath; the laminae deeply punctate: legs elongate, pale-testaceous.

Taken in the neighbourhood of London, at Hertford, Whittlesea Mere, and in Norfolk. "At Bottisham, sparingly."—*Rev. L. Jenyns*. "Wandsworth-common and Copenhagen-fields."—*Mr. Ingpen*.

Sp. 8. *marginatus*. *Flavo-griseus, aut fuscus, elytris punctato-striatis maculis marginalibus utrinque tribus*. (Long. corp. $1\frac{3}{4}$ lin.)

Dy. *marginatus*. *Panzer*.—*Ha. marginatus*. *Steph. Catal. p. 43. No. 420*.

Ovate, griseous-yellow, or fuscous: head small, castaneous, slightly punctulate: thorax ferruginous, immaculate, obsoletely punctulate: elytra acuminate, testaceous, or dusky, with brownish striae, the striae composed of impressed dots, the interstices with a few minute scattered impressions, and the margin with three rounded black or fuscous spots: body fuscous beneath; legs dusky.

Rare, found near London, and in Cambridgeshire. "A single specimen taken in the pond in the Botanic Garden, Cambridge."—*Rev. L. Jenyns*.

Sp. 9. *ruficollis*. *Saturate rufo-testaceus, vertice abdominisque basi piceis, elytris punctato-striatis, interstitiis fusco-maculatis, thorace immaculato, disco sublaevi*. (Long. corp. $1\frac{1}{8}$ — $1\frac{3}{8}$ lin.)

Dy. *ruficollis*. *De Geer?*—*Ha. ruficollis*. *Steph. Catal. p. 43. No. 421*.—Dy. *minutus*. *Don. ii. pl. 68. f. 1. 2*.

Deep testaceous red: head finely punctured, with the vertex piceous: thorax pale, or yellowish-red; glossy, the disc nearly smooth, the margin finely punctate, with a transverse waved striga of small, obsolete, impressed dots, and a minute stria at the base on each side: elytra acuminate, rather convex, pale dusky-testaceous, deeply punctate-striated, the punctures dusky, and the interstices more or less spotted with deep pitchy dots, and each with a few minute scattered impressions, the sutural one with the latter approximating: body pale-testaceous beneath: the lamina deeply punctate: legs and antennae pale.

Very abundant in ponds and ditches throughout the metropolitan district: also found in Norfolk, in Whittlesea Mere, &c. "Wandsworth-common and Copenhagen-fields."—*Mr. Ingpen*. "At Bottisham, plentifully."—*Rev. L. Jenyns*.

Sp. 10. *affinis*. *Griseo-flavus, capite rufo-testaceo, elytris punctato-striatis, striis infuscatis, interstitiis immaculatis, thoracis disco obsoletissime punctulato*. (Long. corp. $1\frac{1}{2}$ lin.)

Ha. affinis mihi. *Steph. Catal. p. 43. No. 422*.

Griseous-yellow: head testaceous-red, obscurely punctulate: thorax with the disc very obsoletely punctulate, the margins distinctly punctate, the base with



an undulated row of impressed dots, and an obsolete short stria on each side, as in the preceding insect: elytra acuminate, punctate-striated, the striæ dusky, the interstices immaculate and impunctate: body pale-testaceous beneath; ventral laminae finely punctate: legs and antennæ pale.

Closely allied to the last, but the striæ on the elytra dusky, the spaces between immaculate and impunctate: the disc of the thorax more obsoletely punctate.

Found near London. "Swaffham-fen."—*Rev. L. Jenyns.*

Sp. 11. *melanocephalus*. *Piceo-testaceus, elytris profundè punctato-striatis, striis infuscatis, interstitiis obsoletissime maculatis, capite nigro-piceo.* (Long. corp. 1 lin.)

Ha. melanocephalus mihi. *Steph. Catal. p. 43. No. 424.*

Less than any of the foregoing: pitchy-testaceous; the head pitchy-black, the vertex deepest, punctulated: thorax ferruginous, very finely punctate throughout, especially on the hinder margin, which is rather depressed: elytra acuminate, deeply punctate-striated, the striæ dusky, with the interstices obscurely spotted with black, and impunctate: body testaceous beneath; ventral laminae rather deeply punctate: legs and antennæ testaceous; the latter palest.

I have one specimen of this insect, which I obtained from the Marshamian Collection: its locality is unknown to me.

Sp. 12. *brevis*. *Rufo-testaceus, elytris obtusis, subcinereis, punctato-striatis, striis infuscatis, interstitiis immaculatis, thoracis disco punctulato.* (Long. corp. $1\frac{1}{4}$ lin.)

Ha. brevis. *Kirby MSS.—Steph. Catal. p. 43. No. 423.*

Rufo-testaceous: head slightly ferruginous: thorax with the disc punctulate, the margin more deeply so, especially behind, where it is a little depressed, and has a faint rudimentary striola on each side: elytra obtuse, slightly cinereous, punctate-striated, the striæ dusky, the interstices immaculate: body beneath pale-testaceous; laminae paler, deeply punctate: legs and antennæ ferruginous.

Distinguished from the nine preceding insects by the obtuseness of the apex of the elytra, and from the three last by the punctulated thoracic disc.

Of this species I have also one specimen only, which I caught near London, and compared several years since with Mr. Kirby's, which were taken in Suffolk.

GENUS LXXVIII.—PÆLOBIUS, *Schönherr.*

Palpi, external maxillary with the terminal joint subclavate, the preceding elongate, clavate, with a tooth on its inner edge, the two basal rather short: *labrum* very narrow, entire, with a depression on its anterior edge: *mandibles* obtuse, strongly bidentate at the tip: *mentum* anteriorly emarginate: *Antennæ* distinctly 11-jointed, the basal joint very large and thick, the second some-



what globose; the following, to the tenth, nearly equal in length, elongate, clavate: the terminal elongate acute; *head* ovate; *eyes* very prominent: *thorax* bisinuate behind: *scutellum* exposed, triangular: *body* oval, convex, obtuse posteriorly: *legs* gressorial, the hinder femora free: *claws* didactyle. *Males* with the four anterior tarsi equally dilated.

Pælobius differs from *Haliplus* and the five following genera by having a distinct, exposed, scutellum, and from the remaining *Dyticidæ* by having all the legs gressorial: it also differs in other important characters, as above pointed out, and very conspicuously by the great convexity of its body, which somewhat approaches to the form of that of the genera *Haliplus*, *Hyphidrus*, and *Hygrotus*.

Sp. 1. *Hermanni*. *Ferrugineus, oculorum ambitu, margine antico et postico thoracis, elytrorumque disco nigris.* (Long. corp. 5—5½ lin.)

Dy. *Hermanni*. *Linné.—Don. xiv. pl. 501. f. 2.—Pæ. Hermanni. Steph. Catal. p. 43. No. 425.*

Ferruginous: head with a black patch round the eyes, expanded towards and somewhat approximating on the forehead: thorax with its anterior and posterior margins black: elytra with a large black patch on the disc, the anterior and lateral edges a little sinuated with the ferruginous ground, very convex, rugose, with several smooth longitudinal lines, which converge towards the suture at the apex: abdomen with the base ferruginous, the apex black; breast and sides of the thorax the same: legs pale ferruginous.

Pæ. Hermanni is not a very abundant insect, especially in the northern counties, where, I believe, it occurs but rarely, if at all: near the metropolis, however, I have met with it in several places, particularly in the ponds in Copenhagen-fields: it occurs in Norfolk. When taken it makes a noise by the friction of its abdomen against the elytra. "Once found in a stream close to Cambridge."—*Rev. L. Jenyns*. "Wandsworth-common, Hampstead-heath, and Sunbridge, in Kent."—*Mr. Inghen*. "Ditches and ponds near Limehouse and Bow."—*Mr. Stone*.

GENUS LXXIX.—HYPHIDRUS, *Illiger*.

Palpi, external maxillary with the terminal joint elongate conic, the preceding short cylindric: *labrum* transverse entire: *mandibles* emarginate at the apex: *mentum* anteriorly emarginate, the centre scarcely produced. *Antennæ* very short, the two basal joints largest, the fourth smallest, the terminal longest, abruptly acuminate: *head* rounded, depressed: *thorax* very short, transverse, produced in the middle behind: *scutellum* none: *body* nearly globose: *legs* formed for swimming: the four anterior tarsi four-jointed, with the last joint abbreviated; the posterior tarsi with one claw.

The chief characters of this genus consist in its nearly globose body, the abbreviated joint to the four anterior tarsi, the monodactyle posterior legs, the absence of a scutellum, and the subacute terminal joint of the external maxillary palpus.

Sp. 1. ovatus. *Brevis, ovatus, ferrugineus, elytris brunneis, immaculatis.* (Long. corp. 2—2½ lin.)

Dy. ovatus. *Linne.*—Dy. ferrugineus. *Don. ii. pl. 68. f. 3. 4.*—Hy. ovatus. *Steph. Catal. p. 43. No. 426.*

Short, ovate, ferruginous: male very finely punctulated: head and thorax rufo-ferruginous; the latter slightly convex, depressed towards the suture of the elytra; finely punctulate throughout, with a few larger impressions towards the middle of the base: elytra ovate, depressed on the back, rusty-brown, with a silken gloss, the margin paler, throughout finely and thickly punctate: body very convex beneath, ferruginous, the breast strongly, and the abdomen faintly, punctate: legs ferruginous: antennæ testaceous.

♀ Dy. ovalis. *Fabricius.*—*Steph. Catal. p. 44. No. 427.*

Female larger, of a deeper colour; the thorax and elytra thickly and rather deeply punctate; the latter glabrous and shining.

Most convincing proofs have been observed of the identity of the two insects above described; I have therefore united them as sexes of one species, although Gyllenhal and others still conceive them to be distinct.

Far from uncommon in stagnant waters in the London district: found also in Norfolk and Devonshire. "Common in Cambridge-shire."—*Rev. L. Jenyns.* "Parson's-green, Wandsworth-common, and Copenhagen-fields."—*Mr. Ingpen.*

Sp. 2. variegatus? *Elongato-ovatus, subattenuatus, paulo depressus, pallide-ferrugineus, thorace maculis duabus baseos fuscis obsoletis, elytrorum margine maculisque pallidis.* (Long. corp. 2½ lin.)

Hy. variegatus? *Illiger.*—*Steph. Catal. p. 44. No. 428.*

Elongate-ovate, slightly acuminate: pale ferruginous: head broad, thickly punctate: thorax with two rather indistinct, round, dusky spots towards the base; the disc with a slightly-elevated transverse line; the surface thickly punctate: elytra rather depressed, posteriorly acuminate, obscure, thickly punctated, dusky-ferruginous, with the margin and several spots and streaks pale-testaceous: the body slightly gibbous beneath, testaceous, with the breast thickly punctate: legs testaceous.

This is different from the insect Mr. Hope has received from the continent as the Hy. variegatus of Illiger, but it approaches very closely to the one described by Gyllenhal, in his 4th vol., as a variety of Hy. ovalis; but its form is essentially different from that of the insect last described.

Of this species I have seen but one indigenous specimen, which was captured in Essex, and is in my collection.

GENUS LXXX.—HYGROTUS,* *miki*.

Palpi, external maxillary with the terminal joint stout, tumid, ovate conic, acute: *labrum* minute: *mandibles* deeply notched at the apex: *mentum* tridentate anteriorly. *Antennæ* short, the two basal joints rather elongate; the third and fourth very stout, equal in length; the remainder rather stouter and longer, the terminal being longest: *head* broad, depressed: *scutellum* none: *body* sub-globose, very convex, as high as broad: *elytra* ovate: *legs* elongate; the four anterior *tarsi* with four, the two posterior with five joints; all didactyle.

Hygrotus differs from *Hydroporus* by the superior convexity of the body, the more deeply emarginated apex of the mandibles, the swollen and acute terminal joint of the external maxillary palpi, and by the brevity of the third and fourth joints of the antennæ: the genus very much resembles the preceding one, but from that it is readily known by the didactyle posterior tarsi.

Sp. 1. *fluviatilis*. PLATE XI. f. 2. *Flavo-testaceus, thorace utrinque striolâ acutâ impressâ, elytrorum disco nigro, flavo-maculato*. (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Hyd. *fluviatilis*. Leach MSS. Hyg. *fluviatilis*.—*Steph. Catal. p. 44. No. 429.*

Testaceous-yellow above, very obscurely punctulated: head pale, eyes dusky: thorax with a transverse elevated disc, and on each side a curved impressed line, the base obscurely impressed; on the disc is an abbreviated transverse spot, which becomes attenuated on each side: *elytra* very finely punctulated, obsolete striated, with two of the striæ more distinct and punctated; the disc with a large, irregular, black patch anteriorly, united by a smaller posterior one and by three or four black lines, leaving an irregular patch towards the suture, and a rounded one on the lateral margins, as well as the apex, base, and margins, of each *elytra*, yellowish: body beneath testaceous, finely punctulated: legs testaceous.

Not found in the vicinity of the metropolis, but a native of hilly and mountainous districts. "In the river Cawdor, near Carlisle, and in the Tavy, in Devonshire."—*Dr. Leach*. "Netley, Salop, very abundant."—*Rev. F. W. Hope*.

Sp. 2. *assimilis*. *Suprà ferrugineus, thorace utrinque impresso, elytris lineis nigris abbreviatis*. (Long. corp. $1\frac{1}{2}$ lin.)

Dy. *assimilis*. *Paykul*.—Hyg. *assimilis*. *Steph. Catal. p. 44. No. 430.*

Above ferruginous and thickly punctulated: head with a narrow fuscous margin to the vertex: thorax with the sides rounded, transversely convex in the

* *Υγροτης*, humiditas.



middle; within the margin, on each side, a bent, impressed fovea, and, towards the middle, an obsolete transverse one, in which are two oblong fuscous spots: elytra moderately convex, pale shining testaceous, the suture narrowly brown, each elytron with about five more or less confluent longitudinal lines on the disc, the two exterior shorter, and interrupted in the middle by a large pale spot: body pitchy-ferruginous, and obsoletely punctated beneath: legs elongate, ferruginous, with the base of the femora obscure.

Very similar to the preceding, but the markings on the elytra different, the colour more ferruginous, &c.

“In the river Plym, near Plymouth.”—*Dr. Leach*. “Netley, Salop, and Aldborough, Suffolk.”—*Rev. F. W. Hope*.

† Sp. 3. *decoratus*. *Ferrugineus, elytris profundè punctatis fusco-brunneis, maculâ didymâ anticâ, lunulâque posteriori pallidis*. (Long. corp. $1\frac{1}{2}$ lin.)

Hyp. *decoratus*. *Gyllenhal*.—Hyg. *decoratus*. *Steph. Catal. p. 44. No. 431*.

Somewhat resembling Hy. *pictus*: colour rufo-ferruginous; head large, glossy, nearly smooth; eyes black: thorax shining, thickly and closely punctate: elytra large, ovate, smooth, shining, pitchy-brown, with several deeply-impressed, large, irregularly-scattered dots, and some minute ones between, with a large double pale spot at the base of each elytron, and a transverse lunule of the same colour a little beyond the middle, following the outline of the thorax, and connected with the exterior pale margin: body shining, reddish-brown beneath: legs entirely pale testaceous: antennæ ferruginous, with the tips dusky.

This insect, which is the Hy. *cuspidatus* of Kunzé, has been seldom found in England: there is one specimen in the British Museum, and the Rev. F. W. Hope has taken it at Netley.

Sp. 4. *confluens*. *Niger, capite thoraceque ferrugineis, elytris pallidis, lineis quatuor abbreviatis nigris*. (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Dy. *confluens*. *Fabricius*. Hyg. *confluens*.—*Steph. Catal. p. 44. No. 432*.

Rather depressed: head finely punctulated, ferruginous, with the crown and region of the eyes dusky: thorax thickly punctulated, pale-ferruginous, immaculate: elytra pale griseous, punctated, with a single regularly punctate stria on each, near the suture, the latter black; the disc posteriorly with four or five parallel black lines, which are frequently united behind; the sutural one and the third abbreviated anteriorly: body glossy-black beneath, deeply punctate: legs pale ferruginous.

A very common species throughout the metropolitan district: also found in Norfolk, and in Whittlesea Mere. “Wandsworth-common and Copenhagen-fields.”—*Mr. Ingpen*.

Sp. 5. *collaris*. *Ferrugineus, elytrorum basi, suturâ lineisque distinctis interruptis nigris*. (Long. corp. $1\frac{1}{2}$ — $1\frac{1}{4}$ lin.)

Dy. *collaris*. *Panzer*.—Hyg. *collaris*. *Steph. Catal. p. 44. No. 433*.



Ferruginous: head finely punctulated, with a large impressed spot on each side between the eyes: thorax with its hinder margin dusky: elytra pale ferruginous, with the base and suture black; parallel with the latter is a longitudinal line, which is generally interrupted beyond the middle, and does not reach to the base: from the shoulder is a second, bent outward obliquely, and behind this is a short, duplex, irregular one, which is sometimes slightly hooked: body beneath totally pale ferruginous: legs testaceous.

Var. β . With the lines on the elytra slightly confluent towards the apex.

Not so abundant as the last, though frequently met with in ditches and ponds round London: also in South Wales and Devonshire. "Wandsworth-common and Copenhagen-fields."—*Mr. Ingpen*.

Sp. 6. *affinis*. *Saturatè ferrugineus, elytrorum disco nigro lineis obsoletis interruptis margineque ferrugineis*. (Long. corp. $1\frac{1}{2}$ lin.)

Hyg. *affinis mihi*. *Steph. Catal. p. 44. No. 434.*

Deep ferruginous: head as in the last, with the vertex slightly fuscous: thorax with the hinder margin black: elytra thickly punctulated, black, with several obsolete interrupted lines, and the outer margin ferruginous: body beneath ferruginous: legs pale testaceous.

Found with the preceding, of which it may prove a variety, differing chiefly in having the elytra nearly entirely black, and more punctulated than in the last: it is also somewhat larger.

Taken near London.

Sp. 7. *reticulatus*. *Ferrugineus, thorace margine postico in medio nigricante, elytrorum disco nigro lineis interruptis ferrugineis*. (Long. corp. $1\frac{1}{2}$ lin.)

Dy. *reticulatus*. *Fabricius*. Hyg. *reticulatus*. *Steph. Catal. p. 44. No. 435.*

Ferruginous: head as in the last: thorax finely punctulated, pale ferruginous, the hinder margin dusky in the middle: elytra covered with large irregular impressions, and many very minute ones between; the disc black, with the lateral margin, an angulated spot near the base, a line near the suture, and several interrupted ones on the disc pale ferruginous: body pale ferruginous beneath: legs testaceous.

This and the two preceding species greatly resemble each other, and all are by Gyllenhal presumed to be varieties of Hy. *reticulatus* of Fabricius; but I am induced to consider them different, until their identity shall be more satisfactorily proved.

Found near London: South Wales, and in Devonshire.

Sp. 8. *inæqualis*. *Ferrugineus profundè punctatus, thorace anticè posticèque nigris, elytris nigris, lateribus sinuatim ferrugineis*. (Long. corp. $1\frac{1}{2}$ — $1\frac{1}{2}$ lin.)

Dy. *inæqualis*. *Fabricius*.—Hyg. *inæqualis*. *Steph. Catal. p. 44. No. 436.*

Ferruginous, deeply punctate: head faintly punctate, with a deep impression on each side of the forehead; thorax with the anterior and posterior margins



black: elytra glossy black, thickly and deeply punctate, the lateral margin broadly and unequally ferruginous, with an irregular testaceous spot near the base, posteriorly bifid, sometimes united by a pale streak to the margin, the apex sometimes with a narrow black line on the lateral coloured margin: body deep shining ferruginous; deeply punctulated: legs elongate, pale ferruginous.

The markings on the elytra very much as above indicated.

Not uncommon in various parts of the south of England, and in Ireland. "In turf pits in Bottisham and Swaffham-fens."—*Rev. L. Jenyns*.

Sp. 9. scitulus. PLATE XI. f. 3. *Niger, thorace ad marginem utrinque macula ferrugineâ, elytris maculis strigisque aliquot irregularibus flavo-testaceis.* Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Dy. scitulus. *Spence MSS.*—Hyg. scitulus. *Steph. Catal. p. 44. No. 437.*

Black: head deeply but distinctly punctate; with two larger impressions between the eyes: thorax thickly punctate, the disc rather elevated transversely: elytra thickly and finely punctate, the lateral margin irregularly pale testaceous, branching off first obliquely at the base, towards the angle of the suture, where it again turns backward parallel with the suture; secondly, beyond the middle, nearly at right angles, and waved; thirdly, short and obliquely, near the apex: body opaque, black beneath, thickly punctulate: legs ferruginous; the posterior pitchy-black.

I believe this is synonymous with the Hy. lepidus of De Jean; but it is different from the Hy. lepidus of Schönherr, as may be readily observed by a comparison of his figure with the one given in this work.

Common near London. "Ireland, Devonshire, and near Carlisle."—*Dr. Leach*. "Wandsworth-common and Copenhagen-fields."—*Mr. Inghen*.

Sp. 10. pictus. *Piceo-ferrugineus, elytris pallidis, sutura maculâ oblongâ disci, striâque submarginali nigris.* (Long corp. $\frac{3}{4}$ — $1\frac{1}{4}$ lin.)

Dy. pictus. *Fabricius.*—Hyg. pictus. *Steph. Catal. p. 44. No. 438.*

Black, finely punctulated, the elytra with a few minute hairs; head pitchy-ferruginous, with a shallow impression on each side between the eyes: thorax slightly convex, pitchy-black, the lateral margin rufescent, with an abbreviated curved striola on the inner edge: elytra very convex, pale-yellow, with the suture, an oblong discoidal spot, and a stripe on the lateral margin black, leaving a flexuous stripe, dilated at each extremity, of the former hue upon the disc of each: body pitchy-red or ferruginous beneath: legs elongate, pitchy-red: antennæ with the base pale rufous, the apex dusky.

Var. β . *Steph. Catal. l. c.* With the suture and a broad common fascia behind black.

Frequently met with in ditches and streams near London, Hertford, Ripley, &c.: also in South Wales and Norfolk. "Common at Bottisham."—*Rev. L. Jenyns*. "Wandsworth-common and Copenhagen-fields."—*Mr. Ingpen*.

GENUS LXXXI.—HYDROPORUS, *Clairville*.

Palpi, external maxillary with the terminal joint sub-cylindric, truncate: *labrum* minute: *mandibles* slightly emarginate at the apex, and denticulated internally towards the base: *mentum* tridentate. *Antennæ* with the two basal joints elongate, the remainder nearly equal in length: *head* broad, gibbous; *body* oval, rather depressed, broader than high: *elytra* ovate: *legs* slender; the four anterior *tarsi* with four, the two posterior with five joints; all didactyle.

This genus, which consists of several closely approximating species, may be known from *Hygrotus* by the truncate terminal joint of the external maxillary palpi, by the depressed body, which is broader than high, by the slighter emargination at the apex of the mandibles, and by the nearly equal length of the nine last joints of the antennæ: from *Noterus* and *Laccophilus* it is distinguished by the four anterior tarsi possessing four joints only.

From its extent, I have subdivided the genus into sections, in order to facilitate the investigation of the species.

A. With the sides of the thorax rounded.

a. *Elytra* with the apex dentate.

- * Sp. 1. *frater*. PLATE XI. f. 4. *Oblongo-ovatus, niger, thorace flavo baseo medio macula bilobâ nigra, elytris limbo, maculis lineisque flavis.* (Long. corp. $1\frac{1}{2}$ —2 lin.)

Dy. frater. *Spence MSS.*—*Steph. Catal.* p. 45. No. 439.

Oblong-ovate, convex, black beneath; above rusty-testaceous, rather opaque, very finely punctulated: thorax with a faint dusky margin anteriorly, and a large geminated black spot at the base in the middle; elytra with the suture, and several regular longitudinal lines, black; the apex obliquely truncate, with the outer angle denticulated: legs and antennæ ferruginous, the latter dusky at the tip.

Var. β . With the body entirely ferruginous beneath, or black, with the margins of the abdominal segments testaceous-red.

Not very common: found in ditches and rivulets in Norfolk, Suffolk, Yorkshire, and occasionally near London. "Near Carlisle, in rivulets."—*Dr. Leach*. "Netley, Salop."—*Rev. F. W. Hope*. "Whittlesea Mere."—*Messrs. Chant and Bentley*.



Sp. 2. areolatus. *Oblongo-ovatus, subdepressus, pallidus, thorace nigro bipunctato, elytris pallido nigroque lineatis.* (Long. corp. $1\frac{3}{4}$ lin.)

Dy. areolatus. *Dufschmid.*—Hyg. areolatus. *Steph. Catal. p. 45. No. 440.*

Oblong-ovate, rather depressed, beneath pitchy-black, above pale, slightly pubescent; the thorax rounded anteriorly, the sides margined, with an impression towards the base, the latter with two black spots: elytra with the suture and several irregular lines on the disc black: legs and antennæ ferruginous.

Var. β . With the body beneath rusty-testaceous.

"In the north of England."—*Dr. Leach.* "In running streams, Bottisham."—*Rev. L. Jenyns.* "Netley and Tradesley, Salop, rare."—*Rev. F. W. Hope.*

Sp. 3. depressus. *Oblongo-ovatus, subdepressus, ferrugineus, thorace maculâ baseos geminâ elytrorumque suturâ, lineisque disci irregularibus.* Long. corp. $1\frac{1}{2}$ —2 lin.)

Dy. depressus. *Fabricius.*—Hyd. depressus. *Steph. Catal. p. 45. No. 441.*

Oblong-ovate, slightly depressed, pale ferruginous, finely punctulate and slightly pubescent: head large, rather dusky on the posterior margin: thorax a little convex on the disc, the anterior and posterior margins with a very narrow black edge, the latter with two small angulated, or rounded, spots: elytra a little convex, pale testaceous, the suture, and several irregular lines on the disc, black, leaving an unequal margin of a pale hue, and two dorsal spots on each elytron, the latter placed one behind the other; the tip of the elytra is obliquely truncate, the outer angle having a powerful dentation: legs and antennæ pale ferruginous. The form of the lines and spots on the elytra varies considerably; in some specimens the former are sometimes confluent.

"Brooks near Oxford."—*Rev. F. W. Hope.* "River Avon, Salisbury, in July."—*Mr. Ingpen.* "In running streams, Bottisham, in company with the last."—*Rev. L. Jenyns.*

b. *Elytra not dentate at the apex.*

Sp. 4. duodecim-punctatus. *Oblongo-ovatus, pallide ferrugineus, thoracis lateribus rotundatis, basi maculâ bilobâ nigrâ, elytris nigris, maculis sex ferrugineis.* (Long. corp. $2\frac{1}{2}$ — $3\frac{1}{2}$ lin.)

Dy. 12-punctatus. *Fabricius.*—*Don. xiv. pl. 496.*—Hyd. 12-punctatus. *Steph. Catal. p. 45. No. 442.*

The largest of this genus; of a pale ferruginous, obsoletely strigulated: head, with the region of the eyes, and its posterior margin, dusky: thorax, with the lateral margins, rounded anteriorly; the anterior with a broad black border in the middle, and the posterior also with a black edge, which is anteriorly produced into two lobes in the middle: elytra slightly convex, black, each with six pale spots, three parallel with the suture, and three on the margin: body pale ferruginous beneath: legs and antennæ the same.

The size and form of the spots on the elytra vary greatly, and they are sometimes slightly confluent.

Rare near London, but more frequent in some of the distant counties. "In Devonshire, and near Carlisle."—*Dr. Leach*. "Very abundant at Netley, Salop."—*Rev. F. W. Hope*.

Sp. 5. consobrinus. *Oblongus, subtus niger, supra pallide-testaceus, nitidus, punctatus, macula thoracis rhombeâ, elytrorum basi, suturâ lineisque 5 nigris.* (Long. corp. $2\frac{1}{2}$ lin.)

Hy. consobrinus. *Kunze*.—*Steph. Catal. p. 45. No. 443.*

Oblong, beneath black; above pale testaceous, shining, punctate; thorax with a central rhomboidal black spot: the elytra, with the base, suture, and five regular longitudinal lines black, the lateral ones somewhat interrupted: legs and antennæ rusty-testaceous.

Not common; found occasionally near London.

Sp. 6. nigro-lineatus. *Oblongo-ovatus, subtus niger, supra pallide ferrugineus, thorace macula discoidali parvâ, elytrorum suturâ lineisque 4 abbreviatis, nigris.* (Long. corp. $2\frac{1}{4}$ lin.)

Hyp. nigro-lineatus. *Schönherr?*—*Hyd. nigrolineatus. Steph. Catal. p. 45. No. 444.*

Oblong-ovate, beneath black; above pale ferruginous: head, with the nape and eyes, black: thorax with a small round black dot in the centre: elytra pale, with the suture and four distinct lines black, the outer one remote from the margin, and none of them reaching the apex; towards the suture is a single impressed striæ: legs ferruginous.

"Near Kean's Cottage, Isle of Bute."—*J. C. Dale, Esq.*

Sp. 7. lineatus. *Oblongo-ovatus, subtus niger, supra pallide testaceus, opacus, subtilissimè punctatus, maculâ magnâ thoracis rhombeâ, elytrorum basi, suturâ lineisque nigris.* (Long. corp. $2\frac{1}{2}$ — $2\frac{3}{4}$ lin.)

Dy. lineatus. *Marsham*.—*Hy. lineatus. Steph. Catal. p. 45. No. 445.*

Oblong-ovate, beneath black, above pale testaceous, opaque, finely punctulated: head with an oblique black streak on each side between the eyes: thorax with a large discoidal rhomboid black spot: elytra, with the base, suture, and five lines on the disc black; the first and third from the suture not reaching to the base; the fourth interrupted beyond the middle; the fifth very short, in the middle of the margin; the four inner ones more or less confluent at the apex: legs and antennæ ferruginous, the latter palest.

Rare: found near London, as well as in distant parts; near Norwich, Ipswich, &c. "Netley, Salop."—*Rev. F. W. Hope*. "Wandsworth Common."—*Mr. Ingpen*.

Sp. 8. picipes. *Oblongo-ovatus, subtus niger, supra ferrugineo-testaceus, nitidus, grosse profundeque punctatus, capitis thoracisque basi lineisque elytrorum nigris, striis 6 baseos coleopterorum punctatis.* (Long. corp. $2\frac{1}{2}$ lin.)

Hy. picipes. *Kunze*.—*Steph. Catal. p. 45. No. 446.*



Oblong-ovate, beneath black, above rusty-testaceous, glossy, coarsely and deeply punctate: head with a bilobate dusky-black posterior margin: thorax punctulate, with its anterior margin dusky, its posterior blackish; within the latter a transverse series of deep impressions; elytra very deeply punctate, dusky, with the suture and four parallel lines on each, black, and a short streak of the same colour on the margin towards the apex; at the base are six deeply punctated striæ, and a slighter one on each side of the suture: legs bright rufous-ferruginous: antennæ testaceous, annulated with black towards the apex.

More abundant than the three preceding species, but nevertheless somewhat uncommon; found occasionally near London, in Norfolk, Devonshire, and near Swansea. "Southend, rare, and Netley, Salop."—*Rev. F. W. Hope.*

† Sp. 9. alternans. *Oblongo-ovatus, subtus niger, supra ferrugineus, opacus, subtiliter punctatus, capitis maculis duabus, thoracis maculâ ad basin transversâ, elytrorumque lineis nigris, striis 4 baseos coleopterorum punctatis obsoletis.* (Long. corp. $2\frac{1}{2}$ lin.)

Hy. alternans. *Kunze.*—*Steph. Catal. p. 45. No. 447.*

Oblong-ovate, beneath black, above ferruginous, opaque, very finely punctulated; head with two black spots: thorax with a transverse black spot on the hinder margin: elytra dusky, with the suture and four parallel lines black, finely punctate, with four obsoletely punctate striæ at the base: legs ferruginous.

In the British Museum. "Taken in Ulswater Lake."—*Dr. Leach.*

Sp. 10. dorsalis. *Oblongo-ovatus, niger, pubescens, thoracis margine fasciâque interruptâ, elytrorum puncto baseo, margineque inæqualiter ferrugineis.* (Long corp. $2-2\frac{3}{4}$ lin.)

Dy. dorsalis. *Fabricius.*—Hy. dorsalis. *Steph. Catal. p. 45. No. 448.*

Black, pubescent, thickly punctulate and pubescent: head rufous-ferruginous, with a deep impression on each side in front: thorax transversely convex in the middle, black, the sides broadly ferruginous, sometimes with an interrupted fascia behind the middle: elytra moderately convex, black, the lateral margin more or less ferruginous, with a spot at the base, and a streak towards the apex of the same colour; towards the scutellum, at the base of the elytra, is also a spot, differing in size, of a deeper hue, which is occasionally deficient: body pitchy-ferruginous beneath, with the apex obscure, entirely punctulated: legs and base of the antennæ ferruginous; the apex of the latter dusky.

Var. β . *Steph. Catal. l. c.* Elytra with the lateral margins alone slightly ferruginous.

Var. γ . Thorax with a round ferruginous spot within the margin, a similar one near the base of the elytra, and the margin of the latter ferruginous.

The size and shape of the maculations vary considerably. Not

uncommon in several places near London, and in Norfolk. "Kensington-gardens."—*Rev. F. W. Hope*. "Wandsworth-common."—*Mr. Ingpen*. "Near Ely, occasionally."—*Rev. L. Jenyns*.

Sp. 11. alpinus. PLATE XI. f. 5. *Oblongo-ovatus, subdepressus, subtus nigropiceus, supra pallidus, glaber, thorace subquadrato, utrinque lineola impresso, nigro maculato, elytris subacuminatis, suturâ lineisque disci subregularibus nigris.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Dy. alpinus. *Paykul?*—*Steph. Catal. p. 46. No. 449.*

Oblong-ovate, rather depressed; pitchy-black beneath, above pale testaceous, smooth: head with the forehead flavescent, the vertex rufescent: thorax with the anterior edge dusky; the disc with two interrupted transverse short black lines, bounded on either side with a deep, short, slightly curved, impressed striola, parallel with the lateral margin: elytra flavescent, subacuminated, with the suture, and about eight lines, black; the six inner parallel and unbroken; the seventh interrupted, leaving two large patches of the yellowish ground exposed; the eighth short, parallel with, and about the middle of the margin: some of the inner lines are obliquely turned up towards the base; and occasionally they become confluent, or obliterated; legs pale ferruginous: breast thickly punctulate.

Taken abundantly by Dr. Leach in the north of England, and in Devonshire. "Common in brooks, Netley, Salop."—*Rev. F. W. Hope*.

Sp. 12. sex-pustulatus. *Oblongo-ovatus, niger, pubescens, capite, thoracis lateribus pedibusque rufis, elytris lituris tribus lateralibus rufo-griseis.* (Long. corp. $1\frac{3}{4}$ —2 lin.)

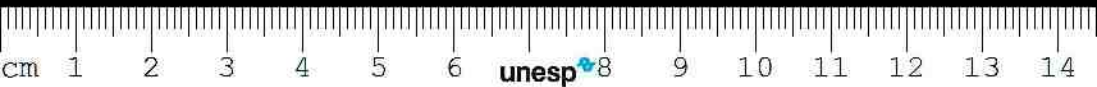
Hy. sex-pustulatus. *Fabricius*.—Hy. 6-pustulatus. *Steph. Catal. p. 46. No. 450.*

Oblong-ovate, black, pubescent, the superficies thickly punctulate: head rufous, with a dusky spot before each eye: thorax black, the disc convex, the lateral margins broadly rufo-testaceous: elytra oblong-ovate, black, a little glossy, more or less spotted on the margins with griseous, usually with a large spot at the base, united by a yellowish streak with the shoulder; the margin beyond the middle pale, behind this another pale spot, varying in size, anteriorly dilated, waved, and posteriorly acuminate; sometimes small, linear; towards the apex a third small, lunate, transverse spot, frequently connected with the second: body black, and slightly punctate beneath: legs rufo-ferruginous: antennæ rufous, dusky at the tip.

Var. β . *Steph. Catal. l. c.* Elytra with two spots on each, one at the base, the other, less, at the apex.

Var. γ . *Steph. Catal. l. c.* Of a rufescent colour above: probably immature. The colour, form, and number of spots on the elytra vary greatly.

One of the most abundant species of the family in Britain, occur-



ring in every brook, rivulet, &c. throughout the metropolitan district. "Wandsworth-common."—*Mr. Ingpen*. "Very plentiful throughout Cambridgeshire."—*Rev. L. Jenyns*.

Sp. 13. *proximus*. *Niger, opacus, capite antice, lateribus thoracis, pedibusque ferrugineis; elytris maculâ apicali pallidâ.* (Long. corp. $1\frac{1}{2}$ lin.)

Hy. *proximus*. *Wilkin MSS.?*—*Steph. Catal. p. 46. No. 451.*

Black, opaque: the head anteriorly, and the sides of the thorax, ferruginous: the elytra black, with a pale arcuated spot towards the base: the legs ferruginous.

I conceive that this insect (which I first obtained from the late Mr. Griffin's collection, by the above name) may be a mere variety of the foregoing: the original specimen is in Mr. Vigors' cabinet.

Near Norwich. "Arran, and near Spitchweek, Devonshire."—*Dr. Leach*.

Sp. 14. *tristis*. *Oblongo-ovatus, subconvexus, angustior, niger, glaber, capite elytrisque rufo-piceis, antennarum basi pedibusque ferrugineis.* (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

Dy. *tristis*. *Paykul.*—Hy. *tristis*. *Steph. Catal. p. 46. No. 452.*

Oblong-ovate, subconvex, black; the entire surface beneath a strong gloss, thickly and finely punctulate: head large, depressed, pitchy-red, with a dusky patch between the eyes: thorax convex in the middle, anteriorly and posteriorly impressed, thickly punctate, slightly glossy: elytra ovate, a little convex, shining pitchy-red, sometimes pale testaceous-red: body pitchy-black beneath, rather deeply punctate: legs rusty-red: antennæ with the base ferruginous: the apex dusky.

The colour of the thorax is sometimes pitchy-red.

Found near London. "Kensington-gardens."—*Rev. F. W. Hope*.

Sp. 15. *umbrosus*. *Oblongo-ovatus, subconvexus, niger, pubescens, capite pedibusque rufis, elytris rufo-piceis, posterius attenuatis.* (Long. corp. 1 — $1\frac{1}{2}$ lin.)

Hyp. *umbrosus*. *Gyllenhal.*—Hyd. *umbrosus*. *Steph. Catal. p. 46. No. 453.*

Minute; oblong-ovate, subconvex, black, pubescent; beneath a powerful lens thickly punctulate: head large, rounded, depressed, rusty-red, frequently with a dusky cloud between the eyes: thorax transversely convex on the disc, with a deep waved impression behind, slightly glossy: elytra oblong-ovate, above a little convex, dull pitchy-red, pubescent; body slightly glossy beneath, black, punctulated: legs elongate, pale rufescent: antennæ the same, with the tip black.

Taken near London, but rarely.

B. With the sides of the thorax in continuity with those of the elytra.

a. *With the tip of the elytra somewhat truncate.*



Sp. 16. ruffrons. *Ovatus, subconvexus, piceo-niger, nitidus, profundè punctatus, capite anticè, elytrorum margine pedibusque ferrugineis.* (Long. corp. 2 lin.)

Dy. ruffrons. *Dufschmid.*—Hyd. ruffrons. *Steph. Catal. p. 46. No. 454.*

Ovate, subconvex, shining, pitchy-black, deeply punctate: the head finely punctate, anteriorly ferruginous: thorax unequal, the margins thickly punctate, the disc rather elevated, slightly punctate; the lateral margin faintly rufescent: elytra very glossy, thickly punctate; the base and lateral margins more or less ferruginous, and the colour more or less distinct: body beneath glossy black, thickly and deeply punctate: legs deep ferruginous: antennæ the same, with the terminal joints belted with dusky.

I have hitherto only met with this insect in the neighbourhood of London. "Wandsworth-common."—*Mr. Ingpen.* "Netley, Salop."—*Rev. F. W. Hope.*

Sp. 17. marginatus. *Oblongo-ovatus, piceo-niger, pubescens; capite, thoracis lateribus pedibusque, ferrugineis.* (Long. corp. 2 lin.)

Hyd. marginatus. *Kunze.* *Steph. Catal. p. 46. No. 455.*

Oblong-ovate, pitchy-black, pubescent: head shining, ferruginous, with a dusky spot on each side near the eyes; sometimes confluent, and two impressed dots between: thorax a little convex, unequal, anteriorly and posteriorly impressed transversely, black, punctate, the lateral margins ferruginous: elytra oblong-ovate, slightly convex, finely and thickly punctate, slightly pubescent, rusty-black, with the margins paler at the base: body beneath glossy rusty-black, subpunctate: legs and antennæ ferruginous, the latter dusky at the apex.

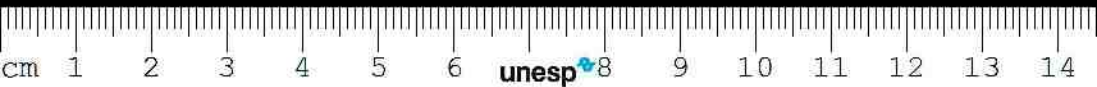
Gyllenhal's insect appears, from his description, to be of a deeper hue: I have hitherto seen three or four indigenous specimens only, all of which are of a rufescent or rusty-black.

Once taken by myself near London. I have a second example, but am not aware of its locality. "Ulswater Lake, twice captured." *Dr. Leach.*

Sp. 18. deplanatus. *Ovatus, planus, piceo-niger, opacus, subtilissime punctulatus, tenuè pubescens, capite anticè, thoracis lateribus, elytrorum basi margineque pedibusque ferrugineis.* (Long. corp. 2 lin.)

Hyp. deplanatus. *Gyllenhal.*—Hyd. deplanatus. *Steph. Catal. p. 46. No. 456.*

Ovate, flat, pitchy-black, opaque, slightly pubescent, finely punctate; head anteriorly ferruginous, with a dusky curved line near each eye: thorax very short, the base deeply sinuated; above depressed, black, opaque, the lateral margin obscure, ferruginous: elytra slightly convex, nearly flat, pitchy-black, opaque, finely punctulate, and slightly pubescent; the shoulders, more or less, and the lateral margins, beyond the middle, ferruginous: body beneath pitchy-black, rather glossy, obscurely punctate: legs and antennæ ferruginous, the latter with the tips dusky.



I have a pair of this species, which I captured in a ditch near the junction of the Surrey and Croydon Canals.

b. With the elytra not truncate at the apex.

Sp. 19. *Scalesianus*. *Rufo-ferrugineus, elytris saturatioribus, punctulatis, subtus niger; antennis pedibusque rufo-testaceis.* (Long. corp. $\frac{3}{4}$ lin.)

Hy. *Scalesianus mihi*. *Steph. Catal.* p. 46. No. 457.

Minute, rufo-ferruginous: head with an impression on each side in front: thorax with the disc slightly elevated transversely, the posterior margin thickly punctulated: elytra deep-ferruginous, inclining to castaneous, the outer margin palest, finely and rather thickly punctulate throughout: body glossy-black beneath, thickly and rather strongly punctate: legs and antennæ rufo-testaceous, the latter palest.

Of this insect I have as yet seen but a pair, which were captured by the late R. Scales, Esq., in Norfolk, who kindly supplied me with one of the specimens, and to whom I dedicated the species long since.

Sp. 20. *unistriatus*. *Ovatus, niger, thorace fasciâ pallidâ striolisque duabus coleoptris communibus, elytris plagâ obsoletâ rufescente.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Dy. *unistriatus*. *Illiger*.—Hyd. *unistriatus*. *Steph. Catal.* p. 46. No. 458.

Minute: ovate, black, punctulated: head pitchy-brown, scarcely punctulated: thorax transversely testaceous in the middle, the anterior and posterior margins dusky, with an oblique impressed line on each side at the base: elytra ovate, much attenuated posteriorly, above convex, rather deeply punctulate, pitchy-black, with an undefined, obsolete, rufescent patch on each, near the shoulder; in the middle of the base an abbreviated, deeply-impressed striola, in continuity with the one on the base of the thorax; and, parallel with the suture, a rather faint stria, scarcely reaching to the apex: body pitchy-black beneath, deeply punctate: legs ferruginous; tarsi obscure: antennæ ferruginous at the base, black towards the tip.

Not very abundant in the neighbourhood of London; more frequent in Devonshire. "Kensington-gardens."—*Rev. F. W. Hope*.

Sp. 21. *geminus*. *Oblongo-ovatus, niger, thorace fasciâ pallidâ striolisque duabus impressis in elytris continuatis, coleoptris fasciâ dentatâ margineque pallidis.* (Long. corp. 1— $1\frac{1}{4}$ lin.)

Dy. *geminus*. *Fabricius*.—Hyd. *geminus*. *Steph. Catal.* p. 46. No. 459.

Minute, oblong-ovate, black: head piceous: thorax pale-testaceous, shining, finely punctulated, the anterior margin dusky in the middle, the posterior with a large transverse dusky-black patch, terminating on each side in an oblique, deeply-impressed striola, which is carried on to the base of the elytra; the latter are finely punctulated, glossy-black, with an irregular pale fascia before the middle, a semi-ovate spot behind the middle, and a triangular one,



both pale, within the apex; the margin is also pale; near the suture is a faint stria, reaching to the apex: body glossy pitchy-black beneath, slightly punctate: legs pale-ferruginous.

The markings on the elytra vary much: the anterior fascia is frequently divided into three spots, of which the marginal one is largest and quadrate, the inner slender, wedge-shaped; the other spots are sometimes united to the pale margin.

Taken sometimes near London: in ponds on Wimbledon-common, and in Coombe-wood.

Sp. 22. *minimus*. *Ovatus, niger, elytris apice lineisque tribus pallidis; pedibus rufis*. (Long. corp. $\frac{3}{4}$ —1 lin.)

Dy. *minimus*. *Scopoli?*—Hyd. *minimus*. *Steph. Catal. p. 47. No. 460.*

Ovate minute; ovate black: elytra with a submarginal pale line, and two at the base: the legs rufous: the antennæ dusky at the base. Probably a mere variety of the foregoing.

Found occasionally near London, and in Devonshire. "South-end."—*Rev. F. W. Hope*.

Sp. 23. *granularis*. *Oblongo-ovatus, niger, subpubescens, elytrorum margine lineis duabus pallidis, antennarum basi pedibusque testaceis*. (Long. corp. $\frac{3}{4}$ —1 lin.)

Dy. *granularis*. *Linne.*—Hyd. *granularis*. *Steph. Catal. p. 47. No. 461.*

Minute; oblong-ovate, black, punctulated, slightly pubescent: head glossy black; thorax shining black, the lateral margins generally pitchy-testaceous, with an abbreviated impressed striola on each side within: elytra ovate, each with a slight pale line in the middle, broadest anteriorly, another commencing at the shoulder, angulated and obliquely bent towards the apex, where it becomes recurrent; in the margin is also a pale abbreviated streak: body pitchy-black or ferruginous, beneath punctulated: legs ferruginous; the tarsi and posterior tibiæ dusky: antennæ pale at the base, black at the apex.

Not very common: found occasionally in ponds and rivulets near London. "River Cam, Cambridge."—*J. C. Dale, Esq.* "Netley, Salop."—*Rev. F. W. Hope*.

Sp. 24. *ovalis*. *Oblongo-ovatus, subacuminatus, ferrugineus, pubescens, elytris pallidioribus lineis quatuor fasciis*. (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Dy. *ovalis*. *Marsham.*—Hyd. *ovalis*. *Steph. Catal. p. 47. No. 462.*

Oblong-ovate, ferruginous, slightly pubescent, punctulated: head and thorax shining, the latter with its anterior and posterior margins a little dusky: elytra attenuated towards the apex, opaque, with the suture and four lines fuscous, and an oblique stripe of the same colour on the margin: body pale ferruginous beneath, punctulated: legs and antennæ pale ferruginous.

Var. β . The elytra dusky, with obsolete ferruginous lines, with the outer margin of the latter colour: it also varies in the intensity of the lines on the elytra, which are sometimes deeper and sometimes nearly obliterated.

Not uncommon in ponds and ditches in the vicinity of London; in Battersea-fields, the New River, and also in Norfolk. "In a ditch at Crosby, near Carlisle."—*Dr. Leach*. "Turf pits in Bot-tisham and Swaffham-fens."—*Rev. L. Jenyns*. "Kensington-gardens."—*Rev. F. W. Hope*.

Sp. 25. *nigrita*. *Oblongo-ovatus, subdepressus, niger, pubescens, antennarum basi pedibusque rufis, elytris stria disci punctata*. (Long. corp. $1\frac{3}{4}$ lin.)

Dy. *nigrita*. *Fabricius*.—Hyd. *nigrita*. *Steph. Catal. p. 47. No. 463*.

Oblong-ovate, slightly depressed, black, pubescent, very finely punctulate: head broad, the margin of the vertex ferruginous: thorax slightly convex, totally black: elytra broad, ovate, depressed, black, more or less pubescent, with a very obsolete punctate stria on the disc, and sometimes another towards the margin: body beneath pitchy-black, shining, rather deeply punctate: legs ferruginous-red, with the hinder thighs pitchy at the base.

Found occasionally in stagnant waters near London. "Netley, Salop."—*Rev. F. W. Hope*.

Sp. 26. *trivialis*. *Ovatus, subconvexus, niger, subpubescens, thorace disco sublavi, margine postico elytris punctatis, pedibus piceis*. (Long. corp. $1\frac{1}{2}$ lin.)

Hyd. *trivialis*. *Spence MSS.?*—*Steph. Catal. p. 47. No. 464*.

Ovate, rather convex, black, slightly pubescent: head pitchy: thorax with the disc transversely convex, nearly smooth, the posterior margin rather thickly and strongly punctate: elytra somewhat convex, a little attenuated towards the apex, thickly and rather strongly punctate throughout: body deep black beneath, punctulated: legs pitchy: antennæ rufo-piceous at the base, dusky towards the apex.

Not common: found near London, and in Yorkshire. "South-end."—*Rev. F. W. Hope*.

Sp. 27. *minutus*. *Oblongo-ovatus, subdepressus, niger, pubescens, lateribus thoracis pedibusque picco-ferrugineis, antennarum basi ferrugineâ*. (Long. corp. $1\frac{1}{4}$ lin.)

Hyd. *minutus mihi*.—*Steph. Catal. p. 47. No. 465*.

Oblong-ovate, subdepressed, black, pubescent: head with the frontal foveæ very deep: thorax with a transverse impression behind, the disc rather convex, smooth, the hinder margin punctate, the lateral margins deep pitchy-ferruginous: elytra pubescent, obsoletely punctulate, with a faint elevated carina on each towards the suture: body deep black beneath, the base of the abdomen and the pluræ rather deeply punctate: legs pitchy-ferruginous: antennæ with the base ferruginous, the apex rather dusky.



Found occasionally near London. "Southend, and Netley, Salop."—*Rev. F. W. Hope.*

Sp. 28. planus. *Oblongo-ovatus, depressus niger, pubescens, tibiis solis rufis.* (Long. corp. $1\frac{1}{4}$ lin.)

Dy. planus. *Marsham.*—Hyd. planus. *Steph. Catal. p. 47. No. 466.*

Minute; oblong-ovate, depressed, pubescent, black: elytra rather pale at the base, obsoletely punctulate; with a very faint abbreviated stria in the middle of the base; beneath pitchy-black: the legs pitchy, with the tibiae alone rufous. Probably a variety of one of the foregoing; to Hy. *trivialis* it approximates most closely, but its form appears dissimilar.

The above description drawn from the Marshamian specimen, which I believe was taken near London.

Sp. 29. melanocephalus. *Oblongo-ovatus, subconvexus, niger, glaber, antennarum basi ferrugineâ, pedibus piceis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Dy. melanocephalus. *Marsham.*—Hyd. melanocephalus. *Steph. Catal. p. 47. No. 467.*

Oblong-ovate, subconvex, black, glabrous, very finely and faintly punctulate throughout: head with the margin of the crown pitchy-red: thorax transversely convex, nearly smooth, anteriorly and posteriorly impressed, entirely glossy black: elytra oblong-ovate, moderately convex, glossy black, immaculate: body beneath shining black, sparingly punctate: legs pitchy-black, with the joints dull testaceous: antennae ferruginous at the base, black at the apex.

Var. β . With the elytra and legs dull pitchy-red; the elytra dusky on the back: probably immature.

Extremely abundant in ponds and rivulets throughout the metropolitan district, and in Norfolk. "Frequent in ditches near Ely, and elsewhere in Cambridgeshire."—*Rev. L. Jenyns.*

Sp. 30. erythrocephalus. *Oblongo-ovatus, convexior, niger, pubescens, capite pedibusque rufis, thoracis elytrorumque margine obscure ferrugineis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Dy. erythrocephalus. *Linné.*—Hyd. erythrocephalus. *Steph. Catal. p. 47. No. 468.*

Oblong-ovate, rather convex, black, pubescent, finely punctulate: head rufo-ferruginous, with a dusky cloud between the eyes: thorax obscure black, the lateral margins more or less ferruginous: elytra a little glossy, pubescent, rather strongly punctate, with the shoulders and lateral margin somewhat testaceous: body beneath shining black, punctulated: legs elongate, entirely rusty-red: antennae testaceous at the base, dusky at the apex.

This is likewise very common in the vicinity of London. "Found with the last."—*Rev. L. Jenyns.*



Sp. 31. flavipes. *Ovatus, subdepressus, niger, pubescens, elytris fuscis basi marginique testaceis, pedibus pallide ferrugineis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Dy. flavipes. *Fabricius*.—Hyd. flavipes. *Steph. Catal. p. 47. No. 469.*

Ovate, slightly depressed, black, pubescent, thickly but finely punctulate: head with two deep frontal impressions: thorax with the disc transversely convex: elytra fuscous, with the base and margin testaceous: body deep glossy black beneath: legs pale ferruginous.

The base and margin of the elytra are sometimes broadly testaceous.

Not uncommon in stagnant waters near London, at Hertford and Ripley; also in Norfolk. “Netley, Salop, and Southend.”—*Rev. F. W. Hope*. “Wandsworth-common.”—*Mr. Ingpen*. “Of frequent occurrence in ditches near Ely, and elsewhere.”—*Rev. L. Jenyns*.

Sp. 32. ater. *Ovatus, subdepressus, niger, antennis pedibusque omnino ferrugineis.* (Long. corp. 2 lin.)

Dy. ater. *Forster?*—Hyd. ater. *Steph. Catal. p. 47. No. 470.*

Ovate, subdepressed, black; with the antennæ and legs entirely ferruginous.

I suspect that the above is an immature state, or a variety of the following species.

Taken in pools near London.

Sp. 33. holosericeus. *Ovatus, subdepressus, niger, pubescens, antennarum basi pedibusque ferrugineis.* (Long. corp. 2 lin.)

Dy. holosericeus. *Marsham*.—Hyd. holosericeus. *Steph. Catal. p. 47. No. 471.*

Ovate, slightly depressed, black, pubescent: head with the margin of the crown glabrous, ferruginous: thorax slightly convex above, and entirely black: elytra black, very pubescent, thickly punctulated, the lateral margin and base generally paler: body shining black beneath, punctulated: the legs ferruginous: antennæ ferruginous at the base, the tip dusky.

Very common near London; also found in Norfolk. “Wandsworth-common.”—*Mr. Ingpen*. “Frequent in ditches near Ely, and elsewhere.”—*Rev. L. Jenyns*.

Sp. 34. pubescens. *Ovalis, planus, niger, pubescens, antennarum basi pedibusque ferrugineis, elytris testaceis, stria disci punctata.* (Long. corp. $1\frac{1}{2}$ —2 lin.)

Hyp. pubescens. *Gyllenhal*.—Hyd. pubescens. *Steph. Catal. p. 48. No. 472.*

Oval, flat, black, very pubescent, finely and thickly punctate: head ferruginous towards the crown: thorax anteriorly and posteriorly impressed transversely: elytra ovate, much depressed, deep testaceous, much punctulated, and strongly pubescent, the disc with an abbreviated stria of larger impressions: body pitchy-black beneath, rather deeply punctulated: legs ferruginous, the femora sometimes dusky: antennæ ferruginous at the base, blackish at the apex.



Frequent near London, and in Norfolk. "Wandsworth-common."—*Mr. Ingpen.*

Sp. 35. *fuscatus*. *Ovalis, niger, subpubescens, elytris piceo-fuscis, obsolete punctulatis, pedibus ferrugineis, femoribus basi nigro-piceis.* (Long. corp. 2 lin.)

Hy. fuscatus. Kirby MSS.—*Steph. Catal.* p. 48. No. 473.

Oval, depressed, black, slightly pubescent: head black, with a rusty streak behind: thorax black, immaculate, the disc slightly convex: elytra ovate, rather depressed, pitchy-brown, obsoletely but thickly punctulated: the base and lateral margin rather palest: body beneath deep shining black: legs ferruginous; the base of the femora pitchy-black: antennæ ferruginous at the base, dusky at the apex.

This is apparently the *Hy. planus*, var. *a.* of Gyllenhal, but the colour of the elytra differs.

Rare: I have two specimens, which were captured near London, and one taken in Norfolk. "Barham."—*Rev. W. Kirby.*

Sp. 36. *piceus*. *Oblongo-ovatus, niger, vix pubescens, elytris piceis profundè punctatis, pedibus omnino ferrugineis.* (Long. corp. 2½ lin.)

Hy. piceus. Kirby MSS. *Steph. Catal.* p. 48. No. 474.

Oblong-ovate, depressed, black, scarcely pubescent: head anteriorly rufo-ferruginous: thorax with the disc convex, the anterior and posterior edges with a transverse series of impressed dots, black, the lateral margins obsoletely-ferruginous: elytra ovate, piceous, the sides paler, deeply punctate throughout: body pitchy-black beneath, punctate: legs entirely ferruginous: antennæ ferruginous at the base, dusky at the tip.

Probably synonymous with *Hy. planus*, var. *b.* of Gyllenhal, but the colour of the elytra is different, and they appear more deeply punctate: the head is not black.

Also rare: I possess one specimen which was caught near London, and another from the vicinity of Norwich. "Barham."—*Rev. W. Kirby.*

GENUS LXXXII.—*NOTERUS*, *Clairville.*

Palpi, external maxillary with the terminal joint elongate-ovate, the preceding and basal one shortest; *labial* with the basal joints short, the last very large, broad, and emarginate at the apex: *labrum* small, rounded: *mandibles* deeply emarginate at the tip, with a small tooth towards the base: *mentum* emarginate anteriorly, with an obsolete lobe in the centre. *Antennæ* with the fifth or seventh joint dilated, the rest simple, gradually diminishing to the last, which is acute: *head* rounded, convex: *thorax* with a triangular projection in the place of the *scutellum*, which is wanting: *body* very convex, attenuated posteriorly: *posterior legs* subnatatorial: *posterior tibiæ* short;



all the *tarsi* with five joints: *males* with the anterior tibiæ very short, stout, dentate internally.

This genus is distinguished with facility from the foregoing by the incrassated joint of the antennæ, the emarginate terminal joint of the labial palpi, and convex body, by which characters it also differs from *Laccophilus*; and from *Colymbetes* and the following genera it may be known by the absence of an exerted scutellum.

Sp. 1. *crassicornis*. *Ferrugineus, elytris saturationibus, lineis tribus punctorum impressis, abdomine piceo.* (Long. corp. $2\frac{1}{2}$ lin.)

Dy. *crassicornis*. *Fabricius*.—No. *crassicornis*. *Steph. Catal. p. 48. No. 475.*

Pale-ferruginous, shining: head smooth: eyes black: thorax convex, smooth: elytra very convex, as broad as the thorax at the base, then slightly attenuated towards the apex, which is rounded, of a deep-ferruginous, inclining to chestnut, with the lateral margin paler; each has three irregular rows of impressions at the base: body deep-ferruginous beneath, the abdomen dusky: legs deep-ferruginous; the male with the four anterior femora with a black ring towards the apex.

Not very frequently met with; I have taken it once or twice in ditches at Battersea-fields, and on Epping-forest: it occurs in Norfolk and Suffolk. "In Mildenhall drain; also in Burwell-fen, Cambs."—*Rev. L. Jenyns*. "Wandsworth-common."—*Mr. Ingpen*. "Whittlesea Mere."—*Messrs. Chant and Bentley*.

Sp. 2. *sparsus*. PLATE XI. f. 6. *Saturate ferrugineus, nitidus, coleoptorum disco obscuriori, elytris punctis sparsis impressis.* (Long. corp. $2-2\frac{3}{4}$ lin.)

Dy. *sparsus*. *Marsham*.—No. *sparsus*. *Steph. Catal.*

Deep-ferruginous, shining: head and thorax impunctate: elytra rather dusky, with the margin paler, the disc with impressed dots, placed in three somewhat regular lines near the base, and scattered irregularly towards the apex: body ferruginous beneath: legs and antennæ rufo-ferruginous.

Var. β . The centre of the thorax and the abdomen beneath dusky or piceous.

In *Entomologia Britannica*, the length of this insect is accidentally said to be five lines; but the identity of the species is unquestionable, from the accompanying figure having been taken from the original specimen whence Marsham drew his description.

Of more frequent occurrence than the last, and generally found in the same places: it also occurs in Norfolk; but not yet found in Cambridgeshire. "Plentiful near Kimpton."—*Rev. G. T. Rudd*. "Wandsworth-common and Epping-forest."—*Mr. Ingpen*.



GENUS LXXXIII.—LACCOPHILUS, *Leach*.

Palpi, external maxillary with the first and third joints shortest, the fourth elongate, subulated: *labial* with the terminal joint longer than the others, rather curved, acuminate: *labrum* minute, emarginate: *mandibles* acute, dentate towards the apex: *mentum* bilohate. *Antennæ* simple: *head* broad, gibbous: *thorax* triangularly produced in the centre behind, in place of the *scutellum*: *elytra* oval, slightly acuminate, a little convex: *posterior legs* formed for swimming: all the *tarsi* five-jointed.

Laccophilus bears considerable resemblance in form to Colymbetes, but the absence of a scutellum at once distinguishes it from that genus and the following, as do the simple antennæ from Noterus, the five-jointed anterior tarsi from Hydroporus, Hygrotus, and Hyphidrus, and the natatorial posterior feet and depressed body from Pælobius and Haliprus.

Sp. 1. minutus. *Flavo-ferrugineus, elytris fuscis, basi lateribusque pallidis, thorace flavo immaculato.* (Long. corp. 2 lin.)

Dy. minutus. *Linne?*—*Mart. C. pl. 33. f. 13.* Lac. minutus.—*Steph. Catal. p. 48. No. 477.*

Rusty-yellow; very glossy: head very smooth, pale-yellowish or greenish; eyes black: thorax moderately convex, very smooth, yellowish-green immaculate: elytra slightly convex anteriorly, depressed posteriorly, obtuse, smooth, glossy greenish-yellow, with the margin and several irregular spots, one in the middle of the base, another towards the suture, emarginate on either side, an oblique one on the shoulder, and another in the middle, both connected with the margin; an oblong narrow streak toward the middle, and another at the apex: body testaceous-yellow beneath: legs yellowish; hinder tarsi obscure.

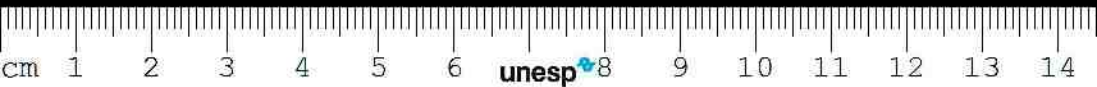
The number and size of the maculations vary considerably; they are sometimes nearly obsolete.

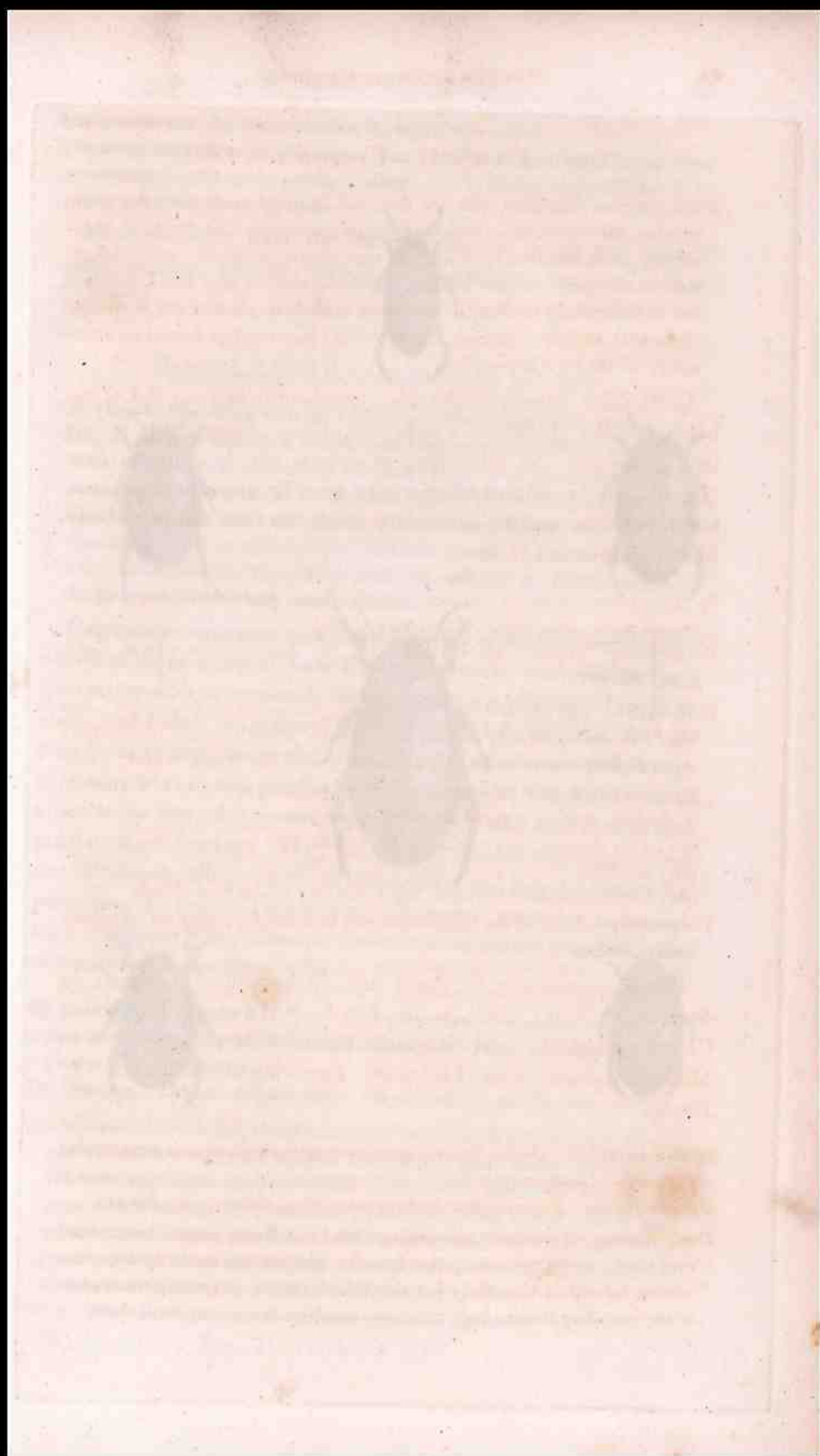
Taken occasionally in ponds and ditches round London: in Norfolk. “Near Carlisle.”—*Dr. Leach*. “Wandsworth-common, Copenhagen-fields, and Regent’s Canal.”—*Mr. Ingpen*. “In Mildenhall-drain, near Littleport, Cambridgeshire.”—*Rev. L. Jenyns*.

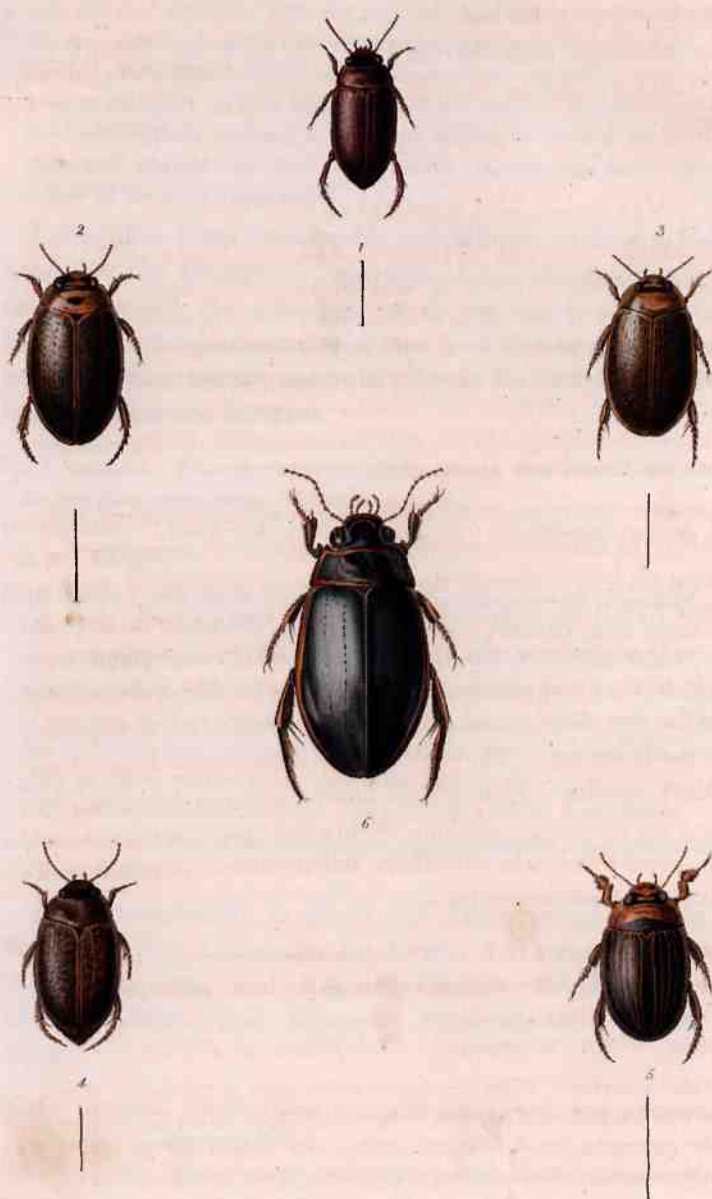
Sp. 2. interruptus. *Ovalis, fuscus, capite thoraceque flavis, elytris virescentibus pellucidis.* (Long. corp. 2 lin.)

Dy. interruptus. *Panzer*.—Lac. interruptus.—*Steph. Catal. p. 48. No. 478.*

Oval, fuscous, very smooth and shining: head and thorax yellow-immaculate: eyes black: elytra greenish, pellucid, rather attenuated towards the apex, the surface beneath a lens finely but faintly and thickly punctulate, marked as in the preceding insect: body testaceous beneath; legs pitchy-ferruginous.







C. M. Curtis del.

London: Pub. by J. F. Stephens. 1. Dec. 1828.

C. F. Weyland sculp.



The number and size of the spots on the elytra vary much.

The chief distinctions of this insect from the foregoing consist in the more acuminate elytra, and the deeper colour; but I think it probable that both may eventually prove identical.

More abundant than the last: common in ponds and ditches round London; also in Norfolk. "Bottisham, common."—*Rev. L. Jenyns*.

GENUS LXXXIV.—COLYMBETES, *Clairville*.

Palpi, external maxillary with the second and third joints equal, the fourth as long as the two preceding united, with the apex obtuse: *labrum* minute, rounded anteriorly: *mandibles* truncate, deeply emarginate at the apex: *mentum* tridentate anteriorly. *Antennæ* slender, rather elongate; the second joint shortest, the third and fourth of nearly equal length: *head* subovate: *thorax* short: elytra oblong-ovate: *scutellum* distinct: *posterior legs* natatorial: *claws* didactyle: *tarsi* five-jointed: *four anterior tarsi* of the males with the three first joints nearly equally dilated.

Colymbetes embraces an extensive series of insects, which differ considerably in external form from each other; nevertheless their general aspect is so extremely similar, and the gradations of shape so close, that I shall not attempt to divide them into sections, but dispose them in accordance with their apparent affinities, commencing, agreeably to my usual practice, with those species which are nearest allied to the foregoing genus, and terminating with such as approximate to the following. They are usually considerably larger than any of the preceding insects of this family, and may be known by possessing an exserted scutellum, compressed posterior natatorial legs, elongated tibiæ, didactyle claws, and an obtuse terminal joint to the external maxillary palpi.

Sp. 1. oblongus. PLATE XII. f. 1. *Oblongo-ovatus, ferrugineus, subtilissimè punctulatus, occipite, pectore ventrequè nigris, elytris fuscis, pallido marginatis* (Long. corp. $3\frac{1}{2}$ —4 lin.)

Dy. oblongus. *Illiger*.—Co. oblongus. *Steph. Catal. p. 48. No. 479.*

Oblong-ovate, ferruginous, finely punctulate: vertex more or less dusky: thorax with the disc blackish, the margins ferruginous, above rather convex, very delicately punctulate-strigose: elytra oblong-ovate, attenuated towards the apex, a little convex, finely and closely punctulate, with several striæ of irregularly-placed deeper impressions, dusky-ferruginous, the basal and lateral margins paler: breast and abdomen beneath dark pitchy-black; the margins of the segments paler: legs and antennæ pale-ferruginous.

Var. β . With the vertex and thorax immaculate-ferruginous.

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F

Far from a common species, and rare near London; also found near Norwich, and in Suffolk. "Whittlesea Mere and Horningsea Fen."—*J. C. Dale, Esq.* "Southend, and Netley, Salop."—*Rev. F. W. Hope.* "Anglesea Abbey, Cambridgeshire, not plentifully."—*Rev. L. Jenyns.*

Sp. 2. *guttatus.* *Oblongo-ovatus, subdepressus, niger nitidus, antennis pedibusque rufo-piceis, elytris guttulis duabus rotundatis pallidis.* (Long. corp. 4 lin.)

Dy. *guttatus.* *Paykul.*—Co. *guttatus.* *Steph. Catal. p. 48. No. 480.*

Rather depressed; oblong-ovate, obsoletely but thickly and finely punctulated throughout: head large, black, smooth, pitchy; vertex with two transverse red spots: thorax black, immaculate, a little convex, with an obsolete impression behind: elytra slightly dilated in the middle, above rather depressed, glossy-black, with the margin concolorous; with a round, pale, transparent spot a little behind the middle, and a second more obsolete and smaller within the apex: near the suture is a continuous stria of impressed dots, and on the disc anteriorly three regularly-punctate striæ, becoming irregular and scattered towards the apex: body beneath immaculate glossy-black: four anterior legs pitchy-red, the posterior pitchy-black: antennæ ferruginous.

Sometimes met with in the metropolitan district: I have received it from Devonshire. "The most abundant species of *Colymbetes* in Salop; also near Buxton."—*Rev. F. W. Hope.* "Under stones in puddles, Glanville's Wootton."—*J. C. Dale, Esq.* "In a running stream near Ashburton, Devon, June, 1828."—*Messrs. Chant and Bentley.*

Sp. 3. *fontinalis.* *Oblongo-ovatus, subdepressus, aeneo-niger, antennis pedibusque piceo-nigris, elytris guttulis duabus obsoletissimis pallidis.* (Long. corp. 4 lin.)

Co. *fontinalis.* *Leach, MSS.—Steph. Catal. p. 48. No. 481.*

Closely allied to the preceding, but more oblong and less depressed: the entire surface is very obsoletely punctulate, and of a brassy-black: head with two very faint rufous spots on the vertex; the mouth black: thorax immaculate, convex: elytra convex, deep brassy-black, with a very obsolete, minute, pallid transparent spot behind the middle, and a second, still more minute and indistinct, within the apex; the lateral margin scarcely dilated beyond the middle; the disc with three very faint striæ, composed of impressed dots, placed regularly towards the base, and scattered towards the apex: body deep black beneath; legs pitchy-black: antennæ piceous, with the base palest.

† Var. β . *C. picicornis.* *Sturm?* Deep-black above and beneath, the elytra with a very minute pale spot towards the margin; the antennæ, palpi, and tarsi bright pitchy-ferruginous.

The colour is sometimes pitchy above, and the antennæ ferruginous.

Found in Devonshire, and near Shoreham, Sussex. "Dartmoor."



—*Dr. Leach.* I rather suspect that var. β ., which is in the British Museum, may be a distinct species; its form is apparently dissimilar to that of the true *Co. fontinalis*: the specimen was taken in Devonshire.

† Sp. 4. *Grapii.* *Oblongo-ovatus, niger, depressus, subtilissime punctulatus, vertice lunulâ mediâ rufo-ferrugineâ, thoracis angulis posticis productis acutis.* Gyll. (Long. corp. $5\frac{1}{2}$ lin.)

Dy. *Grapii.* *Gyllenhal.*—*Co. Grapii.* *Steph. Catal. p. 51. No. 518.*

Oblong-ovate, the entire surface finely and thickly punctulate: head black, the mouth and margin of the forehead, and a lunule on the crown, rufo-ferruginous: antennæ slender, pale rufescent: thorax very short, much sinuated posteriorly, with the hinder angles thrown back and acute; above rather convex, black, the lateral margins rusty-red: elytra large, ovate, very little dilated in the middle, rather depressed, black, opaque, immaculate, the humeral margin slightly piceous, the disc with three faint punctate striæ: body pitchy-black beneath, finely strigose: anterior legs testaceous-red, the thighs beneath and base pitchy-black; the posterior pitchy-black, with the joints paler.

Six indigenous examples of this insect have come beneath my notice; of which two were captured in Norfolk by Mr. Curtis, and four in Whittlesea Mere by Messrs. Chant and Bentley.

Sp. 5. *fuliginosus.* *Oblongo-ovatus, posteriorius attenuatus, obscure metallicus, flavo-marginatus, subtus ferrugineo-brunneus.* (Long. corp. 5 lin.)

Dy. *fuliginosus.* *Fabricius.*—Dy. *uliginosus.* *Mart. C. pl. 32. pl. 2—5.*—*Co. fuliginosus.* *Steph. Catal. p. 49. No. 485.*

Oblong-ovate, posteriorly attenuated; dull-brassy above; the surface under a deep lens finely coriaceous: head black, anteriorly ferruginous, with two more

† Sp. 6. *cicur.* *Oblongo-ovatus, niger nitidus, lævis, maculâ capitis thoracisque margine rufo-ferrugineis, elytris flavis nigro irroratis, lineis tribus flavis.* (Long. corp. 8 lin.)

Dy. *cicur.* *Fabricius.*—*Co. lævigatus.* *Steph. Catal. p. 49. No. 486.*—*Co. consobrinus.* *Curtis, v. pl. 207.*

Oblong-ovate, above yellowish, shining, finely and thickly punctulated: head dusky, with a rufo-ferruginous spot on the crown: thorax dusky-black, with the anterior margin dull-testaceous; the lateral margins and an obsolete central line obscure rufo-ferruginous: elytra oblong-ovate, moderately convex, shining, pale flavescent, thickly irrorated with black, with a small patch at the shoulder, another in the middle of the base, and a slender line down the suture, also black; the disc of each with three narrow longitudinal immaculate-yellow lines, and three obsoletely-punctate striæ, rather irregular towards the apex: body beneath pitchy-ferruginous, or black: legs dusky or testaceous.

or less distinct transverse reddish spots on the crown: thorax slightly convex, brassy-black, with the lateral margins pale-ferruginous: elytra elongate, attenuated towards the apex, above convex, dull blackish-brass, with the outer margin pale-yellowish, the disc with an obsolete punctate stria: body pitchy-ferruginous beneath, the abdomen sometimes paler: legs and antennæ pale-reddish.

Common in clear ditches and streams throughout the metropolitan district: also in Norfolk, near Bristol, and in Devonshire. "Near Durseley, in Gloucestershire."—*Rev. F. W. Hope*. "In streams, Bottisham, not uncommon."—*Rev. L. Jenyns*. "Glanville's Wootton, and Scotland."—*J. C. Dale, Esq.* "Common near Andover."—*Rev. G. T. Rudd*.

Sp. 7. striatus. *Oblongus, niger, posteriùs attenuatus, thorace flavescens, medio inæqualiter nigro, elytris subtilissime transversim strigosis.* (Long. corp. $8\frac{1}{2}$ — $9\frac{1}{2}$ lin.)

Dy. striatus. *Linné.*—*Mart. C. pl. 34. f. 27?*—*Co. striatus.* *Steph. Catal. p. 49. No. 488.*

Oblong, posteriorly attenuated, black: head glossy, with fine irregular abbreviated striae; the labrum and a broad band between the antennæ yellowish, and the crown with two, more or less apparent, transverse ferruginous spots: thorax very slightly convex, throughout very faintly and irregularly strigose,

The late Mr. Tuther assured me that he caught two specimens of this insect in a pond between Snaresbrook and Wanstead, in Essex, twenty years since. Nevertheless, as it has neither been recaptured (although most diligently searched for, by several most indefatigable collectors and by myself, in the pond above alluded to, and in the neighbourhood), nor known to inhabit any other part of Europe, but, on the contrary, is a native of the Cape of Good Hope, whence the *Rev. F. W. Hope* has received specimens direct, I conceive that its admission into the indigenous Fauna is questionable, especially as the former possessor of the specimens not only dealt in insects, but had, inter alia, *Silpha marginata* Fabricius, a species of *Mygale*, and some other *exotic* species, in his cabinet, as *British*. One of the specimens above referred to is in the British Museum by the MS. name *elongatus* of Leach; the other in that of Mr. Vigors, by the name *lævigatus* of Wilkin; the specimens having been purchased at a high price by Dr. Leach and Mr. Wilkin.

Forster, in his *Century of Insects*, has a *Dytiscus glaber* that, unless intended for a variety of *Co. ater*, which is barely possible, in some respects agrees with the above insect; but his description is far too concise and indefinite to determine the point: he says, "*Antennis setaceis compressis, fuscus, elytris glabris ventre pedibusque ferrugineis.* Obs. *Magnitudo Dytisci striati, cui admodum simile insectum.*" and the observation seems to remove it from *Co. ater*.



testaceous-yellow, with the middle unequally black: elytra oblong-ovate, attenuated beyond the middle, above moderately convex, dusky-black, the margin pale griseous-yellow; finely and rather deeply transversely striate throughout; each elytron with two longitudinal striæ, consisting of rather obsolete impressed dots; towards the suture and the margin are also a few scattered impressions. body beneath dusky-black, rather glossy, thickly strigose: legs black, ruggedly punctate.

The disc of the thorax is sometimes nearly all black, at others a narrow waved transverse band alone occurs; and the margins of the abdominal segments are sometimes ferruginous.

Very common throughout the metropolitan district. "Common everywhere in Cambridgeshire."—*Rev. L. Jenyns*. "Wandsworth and Wimbledon commons, and Copenhagen-fields."—*Mr. Ingpen*. "Kimpton."—*Rev. G. T. Rudd*. "Glanville's Wootton."—*J. C. Dale, Esq.*

Sp. 8. fuscus. *Brevior ovatus, supra fuscus, thorace flavescente, medio fusco-piceo, elytris subtilissime transversim strigosis.* (Long. corp. $8\frac{1}{2}$ —9 lin.)

Dy. fuscus. *Linné*.—Co. fuscus. *Steph. Catal. p. 49. No. 487.*

Closely allied to the last, but rather smaller, proportionably shorter and more obtuse posteriorly: head scarcely striated, but obsoletely punctulated: thorax rather more convex than in Dy. striatus, testaceous-yellow, the disc obscurely and irregularly pitchy-brown; the anterior and posterior margins generally pale: elytra ovate. apex obtusely rounded, rather convex, pale-fuscos; the lateral margins, and sometimes the base pale-griseous, very finely striated transversely throughout, with two longitudinal punctate striæ: body beneath deep rather glossy black, sometimes pitchy; delicately strigose: anterior legs testaceous-yellow, the base of the thighs beneath pitchy; the posterior pitchy, with the joints paler.

Taken abundantly in Whittlesea Mere by Messrs. Chant and Bentley; I have also specimens captured near London.

Sp. 9. pulverosus. *PLATE XII. f. 2.—Ovatus, niger, supra flavicans, thorace maculâ mediâ nigrâ, elytris crebrè nigro irroratis, siriis disci punctatis.* (Long. corp. 6— $6\frac{1}{2}$ lin.)

Dy. pulverosus. *Knoch*.—Co. pulverosus. *Steph. Catal. p. 49. No. 489.*

Ovate. black. above yellowish: head posteriorly black, with two, more or less, confluent ferruginous spots: thorax above a little convex, finely rugose beneath a strong glass, luteous, with a transverse dusky-black spot in the middle: elytra ovate. moderately convex anteriorly, rather depressed behind, yellowish; the disc thickly irrorated with black; the lateral margin and a narrow line on the suture immaculate-luteous; the entire surface finely rugulose, and on each elytron three rather conspicuous punctate longitudinal lines, becoming ob-



solete towards the apex: body deep black beneath; the laciniae of the sternum piceous: four anterior legs yellowish, the posterior pitchy-black, with the tips of the thighs ferruginous: antennae pale.

Not uncommon in various parts of England, especially near the metropolis. "Copenhagen-fields and Clapham-common."—*Mr. Ingpen.*

Sp. 10. notatus. *Ovatus, supra flavicans, thorace maculis disci nigris, elytris crebre nigro irroratis, striis nullis punctatis: femina; elytris antierius striolis crebris abbreviatis impressis.* (Long. corp. 5 lin.)

Dy. notatus. *Fabricius.*—Co. notatus. *Steph. Catal. p. 49. No. 490.*

Ovate, above yellowish: head smooth, anteriorly yellow, the crown black, with two transverse testaceous spots: thorax somewhat waved behind, a little convex, very obsoletely and irregularly punctulated, yellowish, with a large transverse black spot on the disc, more or less divided, sometimes occupying considerable space, and occasionally nearly obsolete, and the centre of the posterior margin black: elytra ovate, moderately convex, yellowish, with the disc entirely thickly irrorated with black, with the lateral margin and a narrow line down the suture immaculate; the disc has frequently three distinct slender pale streaks: the breast is black, the apex of the sternum testaceous; the abdomen pitchy-black, with the margin of the segments and the apex pale: legs entirely yellowish.

The female has the elytra thickly covered towards the base with abbreviated striae, the abdomen nearly pale, with the base and sides spotted with brown.

Not very common; I have, however, frequently taken it in a pond on Wandsworth-common in April; it is found in Norfolk. "Carlisle."—*Dr. Leach.* "Southend and Aberystwith."—*Rev. F. W. Hope.* "Once taken at Bottisham."—*Rev. L. Jenyns.* "Whittlesea Mere."—*Messrs. Chant and Bentley.*

Sp. 11. exsoletus. *Oblongo-ovatus, undique flavescens, thorace vix maculato, elytris nigro irroratis, striis disci punctatis.* (Long. corp. 5 lin.)

Dy. exsoletus. *Forster.*—Co. collaris. *Steph. Catal. p. 49. No. 491.*

Oblong-ovate, flavescent: head with the crown narrowly black, with two transverse testaceous spots: thorax generally immaculate, sometimes with two remote brownish spots on the posterior edge, which are rarely connected by a dusky margin: scutellum black, with the apex testaceous: elytra oblong-ovate, moderately convex; the entire disc thickly irrorated with black, the margin and a narrow line down the suture immaculate; each elytron has three irregular punctate striae: breast flavescent, with the sutures darker: abdomen deep rusty-testaceous: four anterior legs flavescent, posterior rather testaceous. I have restored Forster's names to this and some other species, agreeably to the just practice of adopting those proposed by the first describer, although in



my Systematic Catalogue I have unintentionally permitted them to occupy a secondary position*.

This is likewise not very abundant, but occurs sometimes near the metropolis, as well as in Norfolk. "Carlisle."—*Dr. Leach*. "Pools, Netley."—*Rev. F. W. Hope*. "Whittlesea Mere, plentifully."—*Messrs. Chant and Bentley*.

Sp. 12. *agilis*. *Oblongo-ovatus, supra flavicans, subtus niger, thorace antice posticeque nigro, elytris crebre nigro-irroratis, striisque disci punctatis*. (Long. corp. 5—5½ lin.)

Dy. *agilis*. *Fabricius*.—Co. *agilis*. *Steph. Catal. p. 49. No. 492*.

Rather larger than the last; oblong-ovate, above yellowish: thorax with the disc immaculate, the anterior and posterior margins in the middle with a narrow black edge: scutellum black: elytra oblong-ovate, moderately convex; the disc very thickly irrorated with black, the outer margin and a narrow streak down the suture immaculate, the disc of each with two longitudinal striæ of impressed dots; and the entire surface under a strong lens very finely strigose, especially in the female: body beneath black, finely strigose; sternum with the apex ferruginous; the four hinder segments of the abdomen margined with ferruginous: the four anterior legs pale, the posterior deep ferruginous, the femora beneath with an oblong dusky spot.

Decidedly rare in Britain. "In a stream in Norfolk."—*A. H. Haworth, Esq.* "Exeter."—*Dr. Leach*. "Kensington-gardens."—*Rev. F. W. Hope*. "In a stream near Cambridge, once taken."—*Professor Henslow*. "Whittlesea Mere."—*Mr. Bentley*.

Sp. 13. *adpersus*. PLATE XII. f. 3. *Brevior, ovalis, supra flavescens, subtus niger, elytris nigro-irroratis, striis disci punctatis*. (Long. corp. 5 lin.)

Dy. *adpersus*. *Fabricius*.—Co. *adpersus*. *Steph. Catal. p. 49. No. 493*.

Broader but not longer than Co. *collaris*; oval, above flavescent: head with the crown black, with two transverse testaceous spots: thorax entirely flavescent, with two very obsolete remote fuscous spots on the hinder margin, the surface very finely punctulate: scutellum pitchy-brown: elytra broad, oval, dilated towards the middle, rather convex, rather thickly irrorated with black, the outer margin and a narrow line down the suture immaculate; on the disc are three punctate striæ: the breast smooth glossy black, sternum testaceous; abdomen shining black, with the base, apex, and margins of the segments testaceous: legs entirely yellowish.

* In accordance with the above, *Stenolophus vespertinus*, vol. i. p. 166, should be called *St. lateralis*, after Marsham, not *St. placidus*, Gyllenhal.—Marsham's name did not recur to me at the time the observation in p. 183 was penned.



Also a rare species; I have one specimen which was caught in Norfolk, and another taken at Whittlesea Mere. "Clengre, Gloucestershire."—*Rev. F. W. Hope.*

Sp. 14. *nebulosus*. *Ovatus, supra flavescens, subtus nigro-piceus, thoracis disco punctis duobus nigris, elytris nigro variis.* (Long. corp. 4—4½ lin.)

Dy. *nebulosus*. *Forster*.—Dy. *bipunctatus*. *Don*, ix. pl. 303.—Co. *bipunctatus*. *Steph. Catal.* p. 49. No. 494.

Ovate, above yellowish: head anteriorly yellow, the crown broadly black, with two transverse ferruginous spots: thorax a little convex, obsolete punctulated, with two round approximating black spots on the disc: scutellum testaceous-yellow: elytra broad, ovate, a little convex, finely punctulated, pale yellowish, with several scattered dusky-black streaks; the lateral margin, a narrow line down the suture, and a large spot behind the middle of the lateral margin immaculate-yellowish; the disc with three rather obsolete punctate striæ: body pitchy-black beneath, the apex and margins of the segments ferruginous; the apex of the sternum also ferruginous: legs pale-testaceous.

The black spots on the thorax are sometimes nearly confluent, at others almost obliterated.

A very common species near London, but rather scarce northwards; it occurs, however, in Norfolk, Whittlesea Mere, Dorsetshire, &c. "In ponds near Cambridge, but not very common."—*Rev. L. Jenyns*. "Somewhat scarce near Kimpton."—*Rev. G. T. Rudd.*

Sp. 15. *subnebulosus*. *Ovatus, supra flavicans, pectore piceo-niger, abdomine testaceo, thorace immaculato, elytris atro-nebulosis, punctoque pallido intra marginem.* (Long. corp. 4 lin.)

Co. *subnebulosus*. *Hope MSS.* *Steph. Catal.* p. 50. No. 495.

Oval, above yellowish: head as in the last: thorax immaculate, with an obsolete fuscous cloud in the middle of the posterior margin: elytra oval, faintly clouded with dusky, with the outer margin and suture immaculate, and a large pale-yellowish spot behind the middle on the outer margin; on each elytron are three irregular punctate striæ, and several scattered impressions towards the apex: the breast is pitchy-black, the abdomen testaceous; the legs are also testaceous.

My specimens of this species were taken near "Aldborough, Suffolk."—*Rev. F. W. Hope.*

Sp. 16. *consensus*. PLATE XII. f. 4. *Oblongo-ovatus, supra griseo-flavus, subtus niger, capite nigro, posticæ maculis duabus rubris, elytris obsolete nigris irroratis.* (Long. corp. 4—4½ lin.)

Dy. *consensus*. *Marsham*.—Co. *consensus*. *Steph. Catal.* p. 50. No. 496.

Oblong-ovate, griseous-yellow: head with the vertex broadly black, having two transverse rufous spots: thorax immaculate; elytra oblong-ovate, slightly



convex, very obsoletely irrorated with black, with the outer margin and the suture immaculate, and an indistinct paler spot on the outer edge beyond the middle; the disc has three rather obsolete punctate striæ at the base, and a few scattered dots towards the apex: the body beneath shining black, with the margins of the abdominal segments testaceous: the legs are pitchy-ferruginous, with the femora pitchy-black.

Var. β . With the elytra immaculate testaceous-yellow.

The Dy. conspersus of Gyllenhal is synonymous with the Co. pulverosus before described.

Taken sometimes near London; more frequent in the neighbourhood of "Southend."—*Rev. F. W. Hope*.

Sp. 17. *Sturmii*. *Ovatus, niger, subtilissime reticulato-strigosus, thoracis lateribus, antennis pedibusque ferrugineis, elytris fuscis pallido-marginatis*. (Long. corp. 4— $4\frac{1}{2}$ lin.)

Dy. *Sturmii*. *Gyllenhal*.—Co. *Sturmii*. *Steph. Catal. p. 50. No. 497*.

Ovate, black, very finely reticulate-strigose: head black, with two ferruginous spots placed transversely on the crown: labrum smooth, pale ferruginous: thorax with the disc black, the lateral margins broadly ferruginous; within the base and apex a transverse line of obsolete compressed dots: scutellum pitchy: elytra large, ovate, rather convex, dusky-brown, the edges indeterminate ferruginous, and on each elytron three obsolete striæ of minute impressed dots: body beneath pitchy, finely strigose, with the margins of the segments and the apex ferruginous: legs ferruginous, with the femora, especially the posterior, at the base and beneath, more obscure.

Var. β . With the margins of the thorax black, the edge itself obscure ferruginous.

Common throughout the metropolitan district, and near Bristol.

Var. β I obtained from Devonshire. "Whittlesea Mere."—*Messrs. Chant and Bentley*. "Very abundant every where in Cambridge-shire."—*Rev. L. Jenyns*. "Glanville's Wootton."—*J. C. Dale, Esq.*

Sp. 18. congener. *Ovalis, subdepressus, niger, subtilissime punctulato-substrigosus, elytris fuscis, margine pallidiori, pedibus ferrugineis, femoribus nigro maculatis*. (Long. corp. $3\frac{1}{2}$ lin.)

Dy. congener. *Paykul*.—Co. congener. *Steph. Catal. p. 50. No. 498*.

Oval, subdepressed, black, very finely punctulate-strigose: head black, with the mouth, labrum, and two transverse spots on the vertex, rufo-ferruginous: thorax slightly convex, glossy-black, the lateral margins above somewhat rufescent: elytra ovate, rather depressed, the back glossy dusky-black, the base and margins indistinctly pale testaceous; each elytron with three distinct striæ of impressed dots, the inner regular interiorly, the outer, and all behind, irregular and confused: body beneath pitchy-black, with the edges of the



hinder segments and the apex ferruginous: legs ferruginous, the anterior femora in the middle, on both sides, and the posterior nearly entirely black.

Rare: it occurs in Suffolk; and my specimen I obtained from a Norfolk collection.

Sp. 19. *paludosus*. *Ovalis, subdepressus, niger, lævis, thoracis lateribus pedibusque ferrugineis, elytris fuscis, basi margineque pallidis*. (Long. corp. 3—3½ lin.)

Dy. *paludosus*. *Fabricius*.—Co. *paludosus*. *Steph. Catal.* p. 50. No. 499.

Oval, subdepressed, black, smooth, glossy: head black, with the mouth, labrum, and forehead, anteriorly testaceous-yellow; the crown with two transverse ferruginous spots: thorax moderately convex, glossy-black, sometimes brassy or bluish, very smooth, the lateral margins broadly rufo-ferruginous: scutellum testaceous: elytra ovate, punctate, as in Co. congener; but the interstices entirely smooth, glossy, the back dusky, the base and margins testaceous-yellow: body smooth glossy-black beneath: four anterior legs ferruginous, the base of the femora pitchy-black, the posterior piceous, with the joints ferruginous.

Var. β . *Paler*, with the body testaceous beneath, probably immature.

Occasionally found in gently-flowing streams near London: it also inhabits Norfolk, the neighbourhood of Bristol, Swansea, and the hilly districts of Devonshire. "Very abundant in September, 1825, at Netley; and at Skipton and Larden, Salop, July, 1828."—*Rev. F. W. Hope*. "Bottisham, sparingly, always in running streams."—*Rev. L. Jenyns*. "Chevening, Kent, and Epping-forest."—*Mr. Ingpen*. "Middlemist, Dorsetshire."—*J. C. Dale, Esq.* "Very common near Kimpton."—*Rev. G. T. Rudd*.

Sp. 20. *maculatus*. *Ovatus, supra niger, thorace fascia latâ, elytris maculis, lineisque longitudinalibus pallidis*. (Long. corp. 3½—4 lin.)

Dy. *maculatus*. *Linné*.—Co. *maculatus*. *Samou, pl.* 3. f. 15. *Steph. Catal.* p. 50. No. 500.

Ovate, above black, finely punctulated: head anteriorly rufous, posteriorly black, with two transverse ferruginous spots: thorax slightly convex, pale-yellowish, the anterior and posterior margins black in the middle: elytra ovate, convex anteriorly, with three obsolete punctate striae on the disc, glossy-black, with the lateral margin pale or whitish; near the base, internally, a whitish spot; posteriorly bifid, the exterior branch running to the apex of the elytra; near the exterior margin two whitish spots, one before, the other behind the middle, both bifid on either side, and connected with the pale margin; within the apex is a round spot terminating in a line on the disc: these spots vary much in size and form: body rusty-brown beneath, the apex often obscure: legs rufo-ferruginous.

Var. β . *Steph. Catal.* l. c. Differs in having the spot at the base of the elytra abbreviated, and the lateral spots smaller.

Var. γ. Thorax with an interrupted yellowish fascia; the elytra with very small simple spots.

Var. δ. Thorax with an interrupted yellowish fascia; the margin of the elytra above pale.

Many other intermediate varieties occur.

Rare near London; more frequent in Devonshire, and near Bristol. "Cherwell, Oxfordshire, Brooks, Netley; and near Buxton."—*Rev. F. W. Hope*. "In great plenty, in one running stream near Bottisham, but not elsewhere in Cambridgeshire."—*Rev. L. Jenyns*. "Glanville's Wootton."—*J. C. Dale, Esq.* "Not uncommon near Kimpton."—*Rev. G. T. Rudd*.

Sp. 21. abbreviatus. *Ovatus, niger, capite rufo, elytris fasciâ undulatâ abbreviatâ baseos, maculisque duabus marginalibus pallidis.* (Long. corp. $3\frac{1}{2}$ lin.)

Dy. abbreviatus. *Fabricius*.—Co. abbreviatus. *Steph. Catal. p. 50. No. 501.*

Ovate, black, finely punctulate: head smooth, obscure-rufous, with a fuscous spot on the crown: thorax posteriorly subsinuated with obtuse angles; above moderately convex, pitchy-black, with the lateral margins irregularly ferruginous; within the apex a continuous stria, and at the base another, interrupted in the middle, of impressed dots: elytra oblong-ovate, moderately convex, shining black, the lateral margin unequally ferruginous, the disc with three punctate lines; near the base a narrow waved, pale-testaceous, transverse fascia, united to the margin, but not reaching to the sutures; a little beyond the middle, near the margin, a duplex spot, sometimes divided, of the same colour, and within the apex a minute one: body beneath glossy-black, the segments of the abdomen and its apex margined with ferruginous: legs rufescent. The duplex spot near the middle of the margin is frequently united by a longitudinal streak to the anterior fascia, at the shoulder.

I believe this species has not been found nearer to London than Windsor, and even there but sparingly; it is sometimes found in Norfolk. "Windsor."—*Dr. Leach*. "Larden, Salop."—*Rev. F. W. Hope*. "Whittlesea Mere abundantly."—*Messrs. Chant and Bentley*.

Sp. 22. vitreus. *Ovatus, niger, elytris lævibus nigro-æneis, striis tribus simplici serie punctatis, macula laterali didymâ punctoque apicis albido fenestratis.* (Long. corp. 4 lin.)

Dy. vitreus. *Paykul*.—Co. vitreus. *Steph. Catal. p. 50. No. 502.*

Ovate, black, smooth: head generally rufo-testaceous anteriorly, with two reddish spots on the crown: thorax sinuated behind, moderately convex, slightly æneous, with the lateral margin rusty-piceous: elytra oblong-ovate; moderately convex, smooth, glossy, brassy-black, with the margin concolorous; a little beyond the middle, near the outer margin, is a large duplex whitish spot, and near the apex a smaller simple one, entirely bifid, and both subpellucid; the disc of each elytron has three regular punctate striæ: body beneath black, or



piceous: legs rufo-testaceous, with the femora beneath, and the base of the tibiæ, especially the posterior, dusky.

The spot on the margin of the elytra is sometimes divided in two.

Not very common near London; more frequent in distant parts, especially in Glamorganshire; and I believe not uncommon in Norfolk. "Dartmoor and Bristol."—*Dr. Leach*. "Bishop's Castle, Salop, and in brooks near Hampstead."—*Rev. F. W. Hope*. "Rare in Cambridgeshire; a single specimen met with near Bottisham."—*Rev. L. Jenyns*. "Wandsworth-common, and Epping-forest."—*Mr. Inghen*. "Glanville's Wootton."—*J. C. Dale, Esq.*—"In profusion near Kimpton."—*Rev. J. T. Rudd*.

Sp. 23. *chalconotus*. *Oblongo-ovatus, nigro-æneus, depressus, subtilissime reticulato-strigosus, thoracis lateribus pedibusque rufo-piceis.* (Long. corp. 4 lin.)

Dy. *chalconotus*. *Illiger*.—Co. *chalconotus*. *Steph. Catal. p. 50. No. 503.*

Oblong-ovate, brassy-black, depressed, very finely reticulate-strigose: head, with the mouth, and edge of the forehead, ferruginous, with two transverse rufous spots on the crown: thorax, posteriorly, slightly waved; rather convex, with the lateral margin more or less reddish-pitchy: elytra oblong-ovate, subdepressed, immaculate blackish-brass, the lateral margins piceous; on the sides are three rows of scattered impressed dots, most abundant towards the apex: body pitchy-black beneath: four anterior legs pitchy-red, the posterior pitchy-black.

Var. β . With the abdomen and legs rusty-red, the margins of the thorax pitchy-red.

Extremely common in the spring, in ponds and ditches, round London: also found in Norfolk, Suffolk, and near Swansea. "Yorkshire."—*Dr. Leach*. "Netley, abundant."—*Rev. F. W. Hope*. "Occurs occasionally near Bottisham, but is not plentiful."—*Rev. L. Jenyns*.

Sp. 24. *montanus*. *Oblongo-ovatus, nigro-æneus, subdepressus, subtilissime coriaceus, thoracis lateribus concoloribus, pedibus nigro-piceis, elytris vix striatis.* (Long. corp. 3 lin.)

Co. *montanus*. *Leach MSS.—Steph. Catal. p. 50. No. 504.*

Oblong-ovate, brassy-black, somewhat depressed, finely coriaceous: head as in the last species, but the transverse spots on the crown obsolete: thorax scarcely waved posteriorly, rather convex, immaculate brassy-black: elytra oblong-ovate, rather depressed, immaculate brassy-black, the lateral margin obscurely piceous, the disc with three scarcely visible punctate striæ: body beneath pitchy-black, with the margins of the abdominal segments rufo-ferruginous: legs pitchy-black, the anterior palest.

It appears to me that the above is a mere variety of Co. *chalconotus*, differing



in being a little smaller, in wanting the ferruginous margins to the thorax, and in having the sculpture more obsolete.

Found occasionally with the foregoing insect. "Dartmoor."—*Dr. Leach*. "Netley, Salop, in ditches."—*Rev. F. W. Hope*.

Sp. 25. nigro-æneus. *Oblongo-ovatus, obsкуро-æneus, lævis, ore thoracis elytrorumque marginibus pedibusque piceo-brunneis*. (Long. corp. 4— $4\frac{1}{2}$ lin.)

Dy. nigro-æneus. *Marsham*.—Co. nigro-æneus. *Steph. Catal. p. 50. No. 505*.

Oblong-ovate, dull brass, smooth: head with two very distinct transverse rufous spots: thorax nearly as in the two last, with the margins pitchy-brown, the elytra oblong-ovate, black-brass, immaculate, with the margins pitchy-brown, the disc with minute impressions, placed in three longitudinal lines: body beneath, legs, antennæ, and mouth pitchy-brown.

Var. β . With the pluræ black.

Not common: found near London in the spring, in ponds on Epping-forest, and Wimbledon-common. "Aldborough, Suffolk."—*Rev. F. W. Hope*. "Scotland."—*J. C. Dale, Esq.*

Sp. 26. femoralis. *Oblongo-ovatus, nigro-subæneus, depressior, punctulatus, thoracis elytrorumque lateribus dilutioribus, pedibus rufis*. (Long corp. $2\frac{3}{4}$ —3 lin.)

Dy. femoralis. *Paykul*.—Co. femoralis. *Steph. Catal. p. 50. No. 506*.

Small: oblong-ovate, depressed, punctulated, brassy-black: head, with the mouth, labrum, and margin of the forehead, testaceous; and two transverse spots on the crown rufous: thorax moderately convex, shining blackish-brass, with the lateral margins indeterminately testaceous-red: elytra ovate, a little convex, brassy-black, with the margins and base indeterminately paler, the disc punctulated, and also having three irregular rows of deeper impressions on each elytron, and near the suture a fourth of rather obsolete dots: body pitchy-black beneath, or black: antennæ and palpi black at the apex: legs pale rufescent, the hinder femora sometimes with a dusky patch in the middle; the anterior thighs thickened; the male with a dense pale fringe beneath, and in the female slightly ciliated.

Not very common near London, where it is occasionally found, as well as in Norfolk. "Southend, and Kensington-gardens."—*Rev. F. W. Hope*. "At Anglesea-abbey, Cambridgeshire, but not plentifully."—*Rev. L. Jenyns*. "Parley-heath."—*Mr. Ingpen*.

Sp. 27. striolatus. *Oblongo-ovatus, subdepressus, niger, longitudinaliter subtilissime striatus, striis anastomozantibus, antennis pedibusque rufis*. (Long. corp. $3\frac{1}{4}$ lin.)

Dy. striolatus. *Gyllenhal*.—Co. striolatus. *Steph. Catal. p. 51. No. 512*.

Small, oblong-ovate, rather depressed, black, longitudinally finely striated, the striæ frequently anastomosing, as in Co. bipustulatus: head glossy-black, with the mouth, labrum, and margin of the forehead, ferruginous; the crown



with two transverse rufous spots: antennæ ferruginous: thorax rather convex, glossy-black; the margin above, especially anteriorly, ferruginous: scutellum pitchy-red: elytra oblong-ovate, rather depressed, immaculate shining black, each with three very irregular rows of impressed dots, sprinkled without order towards the apex, besides the anastomosing striæ: body shining pitchy-black beneath, with the margins of the segments ferruginous: legs deep rufo-ferruginous, with the femora, especially the posterior, often pitchy-black at the base.

I am not aware of the locality of my specimen of this species (which is the only indigenous example I have seen), but suspect that it was taken near London several years ago.

Sp. 28. affinis. *Ovatus, convexus, niger, subtilissimè punctato-substrigosus, antennarum basi pedibusque rufis, elytris lineolis duabus pellucidis.* (Long. corp. 3 lin.)

Dy. affinis. *Paykul.*—Co. affinis. *Steph. Catal. p. 51. No. 507.*

A small species: ovate, convex, black, very finely, but obsoletely, punctate-strigose: head shining black, with the mouth and labrum testaceous, and two rufescent transverse spots on the crown: antennæ pale-rufescent, with the apex brown: thorax above convex, immaculate shining black, with a punctate continuous stria within the apex, and another, interrupted in the middle, at the base: elytra oblongate-ovate, not dilated in the middle, convex, glossy-black; a little beyond the middle, within the margin, as lender pale pellucid streak, and within the apex another, more distinct: on the disc of each elytron are three irregular rows of impressions, which become scattered towards the apex, where, towards the suture, is a regular stria of punctations: body glossy-black beneath, irregularly strigose: four anterior legs rufescent, with the base of the femora pitchy-black; the posterior pitchy-black.

Rare: I have two specimens, which I believe were captured in Norfolk. "Netley, Salop."—*Rev. F. W. Hope.*

Sp. 29. uliginosus. *Ovalis, convexus, niger nitidus, aut nigro-æneus, subpunctatus, thoracis elytrorumque margine antennis pedibusque rufo-ferrugineus.* (Long. corp. 3½ lin.)

Dy. uliginosus. *Linné.*—Co. uliginosus. *Steph. Catal. p. 51. No. 513.*

Oval, convex, shining-black, finely punctulate; head depressed, with the mouth, labrum, and margin of the forehead rufo-ferruginous, and two rather large transverse spots on the crown: thorax rather sinuated behind, above convex, glossy-black, with a brassy tinge, the lateral margins broad and rufo-ferruginous: elytra large, ovate, not dilated in the middle, very convex anteriorly, shining, somewhat brassy-black, with the lateral margins paler; on each are three very irregular rows of impressed dots towards the base, and a few impressions near the suture: body glossy-black beneath, with the segments of the abdomen edged with ferruginous: legs rufo-ferruginous, with the femora more or less dusky: antennæ pale-rufescent, with the tip rather obscure.



† Var. β . *Co. æratus mihi*. *Steph. Catal. p. 51. No. 508*. With the disc of the thorax and the elytra rich greenish-brass; in other respects similar to the above.

The Marshamian specimen of var. α . is the only indigenous example I have seen: I am not aware of its locality; and of var. β ., which is in the British Museum, I have also seen but one, which was captured near Windsor.

† Sp. 30. ferrugineus. *Ovatus, convexus, rufo-testaceus aut ferrugineus nitidus, lævissimus, elytris saturatioribus basi margineque dilutioribus*. (Long. corp. 4—4½ lin.)

Co. ferrugineus mihi. *Steph. Catal. Appendix*.

Ovate, convex, glossy, rusty-testaceous or ferruginous, very smooth: head rather depressed, rufo-testaceous, with sometimes a small black spot on the crown: thorax convex, rather sinuated behind, with the hinder angles thrown back and obtuse, bright rufo-ferruginous, immaculate; on the anterior and posterior margins, towards the angles, are a few impressed dots, placed in a row: elytra convex, deep rufo-ferruginous, immaculate, with the lateral margin and the base indeterminately paler or testaceous, and the suture rufescent; the disc with three obsolete rows of distant impressed dots: thorax beneath rufous: plura and abdomen black: four anterior legs rufo-piceous, posterior nearly black, the tarsi piceous: antennæ pale rufo-ferruginous, very short.

Of this insect, which is apparently nondescript, there are eight specimens in the collection at the British Museum; they were captured by Dr. Leach, in South Devon, in the spring of 1825.

Sp. 31. aterrimus. *Subovatus subæneo-niger, obscure-nitidus, immaculatus, antennis solis rufis*. (Long. corp. 4 lin.)

Co. niger. *Steph. Catal. p. 51. No. 509*.

Subovate, somewhat brassy-black, obscurely shining, immaculate; beneath a powerful glass, somewhat finely striated, as in *Co. bipustulatus*: head with the mouth and labrum pitchy; the vertex immaculate: thorax obsoletely sinuated behind, slightly convex; elytra somewhat ovate and convex, very finely but obsoletely striate, with three faint longitudinal rows of impressions at the base, and some scattered dots towards the apex; dull brassy-black, with the outer margin obscurely piceous: body pitchy-black, tinged with æneous beneath, and thickly strigose: legs, especially the posterior, deep pitchy-black.

Co. niger of De Jean is synonymous with *Co. grapii*: I have therefore been compelled to change the name from that in my Catalogue.

I have only a single specimen, which was taken near London, in 1820.



Sp. 32. *bipustulatus*. *Ovatus, niger, nitidus, longitudinaliter tenuis-striatus, posteriùs angustatus depressus, pedibus piceis*. (Long. corp. $4\frac{1}{2}$ — $5\frac{1}{4}$ lin.)

Dy. *bipustulatus*. Linne.—Co. *bipustulatus*. Steph. Catal. p. 51. No. 510.

Ovate, black, shining, depressed posteriorly, the entire surface thickly and evidently covered with slender longitudinal anastomosing striæ: head with the labrum and mouth pale-ferruginous; the vertex with two elongate rufo-ferruginous transverse spots: thorax sinuated posteriorly, rather convex, glossy-black: elytra ovate, large, slightly convex anteriorly, depressed posteriorly, shining black, with a brassy tinge, the striæ rather deeper than on the head and thorax, and the disc of each elytron with three irregular rows of impressions: body pitchy-black beneath, striated, the posterior segments with ferruginous edges: legs pitchy-black, the anterior tibiæ and tarsi testaceous.

Var. β . Steph. Catal. l. c. With the anastomosing striæ more deeply impressed.

Var. γ . Steph. Catal. l. c. With the elytra entirely more or less of a pitchy-brown or rufo-testaceous: probably immature.

Extremely common throughout the metropolitan district; and, I believe, in most parts of the south. "Very abundant in Cambridgeshire."—Rev. L. Jenyns. "Somewhat scarce near Kimpton, occurring only in ponds."—Rev. G. T. Rudd.

Sp. 33. *confinis*. *Ovalis subdepressus, niger, elytris lævissimis fuscis margine piceo-testaceo, pedibus piceo-nigris*. (Long. corp. 4 lin.)

Dy. *confinis*. Gyllenhal.—Co. *subopacus*. Steph. Catal. p. 51. No. 511.

Oval, subdepressed, black: head finely punctulate, the labrum and mouth ferruginous; the crown with two transverse rufo-ferruginous spots: thorax a little convex; finely punctulate, subsinuated behind, rather glossy and brassy-black, the lateral margins slightly rufescent: elytra large, ovate, not dilated in the middle, a little depressed, the back shining dusky-black, very smooth, the margins indeterminately pitchy-testaceous; each elytron with three rows of impressions, placed somewhat regularly at the base, but irregularly towards the apex: body deep-glossy black beneath, the posterior segments of the abdomen edged with ferruginous: legs pitchy-black, with the anterior tibiæ and tarsi rufescent.

One specimen only of this species has come under my inspection: it is in my own cabinet, and was taken by myself, several years back, in the neighbourhood of London.

Sp. 34. *angustior*. *Oblongo-ovatus angustior, convexus, nigro-æneus, posteriùs attenuatus, elytris immaculatis, corpore pedibusque piceis*. (Long. corp. 4 lin.)

Dy. *angustior*. Gyllenhal.—Co. *angustior*. Steph. Catal. p. 48. No. 482.

Oblong-ovate, narrow, convex, blackish-brass; the entire surface finely coriaceous: head with the mouth, labrum, and sometimes the anterior margin of



the forehead obscure ferruginous, with two transverse red spots on the vertex: thorax black-brass: elytra very oblong, narrow, scarcely dilated in the middle, attenuated towards the apex, convex, immaculate blackish-brass, the margin concolorous, with three rows of irregular minute impressions on the disc: body glossy pitchy-black beneath: legs pitchy-black, with the joints and anterior tibiæ rusty-piceous.

Var. β . With the four anterior legs entirely ferruginous.

Not common; taken in the metropolitan district.

† Sp. 35. vittiger. *Oblongo-ovatus, nigro-æneus, palpis antennisque ferrugineis, pedibus rufo-piceis, elytris lineâ unicâ laterali rufescente abbreviatâ.* (Long. corp. $4\frac{1}{2}$ lin.)

Dy. vittiger. *Gyllenhal?*—Co. vittiger. *Steph. Catal. p. 49. No. 483.*

Black or brassy above; and, with a powerful glass, the entire surface appears covered with net-like strigæ: head with two transverse oblong rufescent spots on the vertex: the palpi ferruginous: thorax immaculate: elytra rather elongate, blackish-brass, with the margin concolorous; each with three rows of large distinct irregular impressions, and a reddish rather oblique, and sometimes nearly obsolete, line towards the middle of the lateral margin: body beneath brassy-black, obsoletely punctate: legs pitchy-red, anteriorly paler.

This species appears to be in the collection at the British Museum, *unnamed*; it was taken by Dr. Leach in Devonshire four years since.

Sp. 36. guttiger. *Oblongo-ovatus, niger, subconvexus, subtus piceus, elytris lineolâ punctoque fulvo-fenestratis, pedibus piceo-ferrugineis.* (Long. corp. 4— $4\frac{1}{2}$ lin.)

Dy. guttiger. *Gyllenhal.*—Co. guttiger. *Steph. Catal. p. 51. No. 514.*

Oblong-ovate, black, somewhat convex, finely punctulated: head with the mouth and palpi rufo-ferruginous, with two transverse rufous spots on the crown: thorax rather convex, black, the anterior angles slightly ferruginous: elytra large, ovate, rather broader in the middle, anteriorly moderately convex, behind rather depressed, entirely black, with the margin concolorous; on the disc of each elytron are three rows of very obsolete minute impressions, very irregularly disposed; a little behind the middle, near the margin, is a narrow reddish-yellow transparent streak, and a round spot of the same colour within the apex: body beneath black, or pitchy-black, rather glossy: four anterior legs dull rufescent, the posterior pitchy-ferruginous.

Var. β . Co. immunis. *Steph. Catal. p. 49. No. 484.* With the rows of impressed dots on the elytra extremely obsolete; visible only with a powerful glass.

Not common near London; I have twice captured var. α . All the specimens that have come under my inspection of var. β . were taken as below. "Pools, Netley."—*Rev. F. W. Hope.* Var. β . "Ponds in Bewdley-forest, Worcestershire."—*Messrs. Cooper and Ingpen.*

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G



Sp. 37. fenestratus. *Oblongo-ovatus, convexus, nigro-æneus, posteriorius attenuatus, elytris lineolis duabus fenestratis, margine corporeque ferrugineis.* (Long. corp. 5—6 lin.)

Dy. fenestratus. *Fabricius*.—Co. fenestratus. *Steph. Catal. p. 51. No. 515.*

Oblong-ovate, convex, brassy-black, attenuated posteriorly: head broadly ferruginous anteriorly, with the spots on the crown obsolete: thorax with the lateral margin more or less rufo-ferruginous: elytra convex, with the lateral margins broadly ferruginous, each with three longitudinal rows of irregularly dispersed impressions, and a little beyond the middle, within the margin, an obsolete narrow longitudinal streak, and a second less distinct within the apex: body glossy rufo-ferruginous beneath: legs ferruginous.

Var. β . With the upper surface pitchy-black, beneath pitchy.

Not uncommon but local near London. "Croydon Canal."—*Dr. Leach*. "In Mildenhall drain, near Littleport, Cambs."—*Rev. L. Jenyns*. "Parley Copse."—*J. C. Dale, Esq.*

Sp. 38. ater. *Oblongo-ovatus, niger, convexus, posteriorius attenuatus, elytris lineolis duabus fenestratis, antennis pedibusque anterioribus ferrugineis.* (Long. corp. 6—7 lin.)

Dy. ater. *De Jean*.—Co. ater. *Steph. Catal. p. 51. No. 516.*

Oblong-ovate, black, convex, posteriorly attenuated: head with the mouth dull ferruginous, and two more or less distinct ferruginous spots on the crown: thorax rather sinuated behind; above convex, the lateral margins obscurely pitchy-ferruginous: elytra large, oblong-ovate, slightly dilated in the middle, attenuated towards the apex, very convex, shining black, or dull æneous, with the outer margin anteriorly pitchy-brown; on the disc of each elytron are three irregular rows of minute impressed dots; a little beyond the middle, within the margin, is a narrow longitudinal transparent pale testaceous streak, and an indistinct oblique one towards the apex: body pitchy-black beneath, with the apex and the margins of the abdominal segments frequently rufescent: four anterior legs rufescent, posterior pitchy-black.

The colour of the upper surface varies in being somewhat piceous, and of the under by occurring of a pale testaceous: probably immature.

Not uncommon in ponds throughout the metropolitan district; also in Norfolk, Dorsetshire, &c. "Sundridge, Kent."—*Mr. Ingpen*.

Sp. 39. obscurus. *Oblongo-ovatus, niger, convexus, elytris maculis duabus fenestratis obsoletiusculis, corpore subtus, antennis pedibusque piceis.* (Long. corp. 6 lin.)

Dy. obscurus. *Marsham*.—Co. obscurus. *Steph. Catal. p. 51. No. 517.*

Oblong-ovate, deep black, convex: head and thorax as in Co. ater: elytra very convex, obsoletely striated, with two very indistinct fenestrated spots, one on the lateral margin, a little beyond the middle, the others at the apex: body beneath, antennæ, and legs pitchy.



I cannot imagine the above insect to be specifically distinct from the foregoing; its smaller size, deeper colour, and apparent diversity of form, are the only distinctions; and I have taken both in the same ponds; but upon the latter subject I shall enlarge at some future period.

This appears synonymous with the *Co. 4-guttatus*, De Jean, according to specimens sent by him to Mr. Hope.

Also taken in the vicinity of the metropolis, in Norfolk, &c. "In Bottisham-fen."—*Rev. L. Jenyns*. "Sundridge, Kent."—*Mr. Ingpen*. "Scarce near Kimpton."—*Rev. G. T. Rudd*.

† Sp. 40. quadrinotatus. *Suboblongo-ovatus, convexus, niger, nitidus, elytris punctis duabus rotundatis albis, antennis rufo-ferrugineis, pedibus nigris.* (Long. corp. $4\frac{1}{2}$ lin.)

Co. 4-notatus mihi. Steph. Catal. Appendix.

Somewhat oblong-ovate, rather attenuated posteriorly, convex, black, shining: head and mouth black, the former rather convex, with two large rufous spots on the crown: thorax smooth, with a deep arcuate impression on each side, within the hinder angles: elytra oblong-ovate, glossy black, very smooth, a little beyond the middle, near the outer margin, a large round transparent white spot, and rather within the apex a smaller one of the same colour: on the disc of each are three rows of impressed dots, placed rather irregularly towards the apex: body deep glossy black beneath: legs also black, with the four anterior tarsi rufo-piceous: antennæ rufo-ferruginous.

This differs from *Co. guttatus* by the superior convexity of its body, and more attenuated form, exclusively of the difference in the colour of its legs, &c.

Five specimens of the above-described insect are in the collection at the British Museum; they were taken by Dr. Leach in Devonshire in the spring of 1825:—they are apparently new; yet as nearly half the species of *Colymbetes* in the above collection are unnamed, and the species themselves are promiscuously arranged, it is a difficult matter to decide upon their identity or disparity; it is therefore with considerable hesitation that I venture to pronounce this, as well as other insects which I have described from the Museum specimens, under such disadvantageous circumstances, as novel.

GENUS LXXXV.—AGABUS, *Leach*.

Palpi, external maxillary with the second and third joints equal, the fourth longer and subulated: *labrum* bilobate: *mandibles* emarginate at the apex: *mentum* trilobate, the central lobe small. *Antennæ* (of the males) with the seven basal joints obconic, the three following compressed, internally dilated, and serrated, the terminal small acuminate: *head* subovate: *thorax* elongate-transverse: *scutellum* distinct: *elytra* ovate, attenuated: *legs* natatorial: an-

terior femora compressed, dentate beneath in the males: *posterior tibiæ* elongate: *tarsi* five-jointed, the anterior in the male coarctate, dilated: *claws* didactyle.

Agabus may be known from the following genera by the form and proportions of the external maxillary palpi, the compressed anterior femora, the superior convexity of the body, and other less conspicuous characters; the males are further discriminated by the form of their antennæ, and of their anterior dilated tarsi: from the foregoing genera, excepting *Colymbetes*, from which the palpi, &c. distinguish it, the present differs by having a scutellum and swimming posterior legs.

† Sp. 1. *serricornis*. *Nigro-piceus, lævis, thoracis elytrorumque margine, corpore subtus pedibusque rufo-piceis.* (Long. corp. $5\frac{1}{2}$ —6 lin.)

Dy. *serricornis*. *Paykul.*—*Ag. serricornis.* *Steph. Catal. Appendix.*

Ovate, convex, obtuse; smooth pitchy-black: head anteriorly rufo-ferruginous, with two large reddish transverse spots on the crown: thorax deeply emarginate anteriorly, very convex, smooth, the lateral margins broadly reddish-pitchy; with an irregular continuous series of impressed dots, within the apex, and an interrupted one at the base: elytra very convex, the margin pale ferruginous; the superficies under a powerful lens finely but thickly punctulate, with three irregular striæ of impressed dots on each elytron: body pitchy-red beneath: legs the same: the anterior femora of the male compressed, dentate beneath, the anterior tarsi coarctate, somewhat patellate. Female less, with simple antennæ and anterior femora.

“Netley, Salop, rare.”—*Rev. F. W. Hope.*

GENUS LXXXVI.—HYDATICUS, *Leach.*

Palpi, external maxillary with the second joint somewhat shorter than the following, the third and fourth nearly equal, the latter subulated: *labrum* slightly emarginate: *mandibles* somewhat triangular, bifid: *mentum* trilobate. *Antennæ* with the second and third joints shortest, the remainder of nearly equal length: *head* rounded: *scutellum* distinct: *elytra* ovate, convex, smooth in both sexes: *posterior legs* natatorial: *tarsi* five-jointed: *anterior tarsi* of the males patelliform and ciliated: *intermediate* dilated: *claws* didactyle: *thorax* a little rugose in the females.

Hydaticus was proposed as a genus by Dr. Leach, to discriminate those *Dyticidæ* that have the third and fourth joints of the external maxillary palpi nearly equal in length, with the latter subulated; the second and third joints of the antennæ shortest; the body ovate and convex; the elytra smooth in both sexes; the anterior tarsi of the males patelliform, and the thorax somewhat rugose on the sides in the females.



Sp. 1. transversalis. *Niger, thorace antice lateribusque ferrugineo, elytris vittâ marginali striâque bascos subundulatâ abbreviatâ flavis.* (Long. corp. 6— $6\frac{1}{2}$ lin.)

Dy. transversalis. *Fabricius.*—Hy. transversalis. *Steph. Catal. p. 51. No. 519.*

Black: head with the mouth and forehead testaceous-yellow, with two transverse ferruginous spots, and sometimes a triangular one in front: thorax anteriorly and with the lateral margins testaceous-yellow, the posterior edge with a broad anteriorly rounded black patch: elytra rather convex, with the margin broadly yellowish, throwing off obliquely several interrupted dashes to the disc, which has three punctate striæ; near the base of each elytron is a slender waved pale stripe, neither touching the suture nor the marginal band: body glossy-black beneath, with the apex and margins of the abdominal segments pitchy-ferruginous, and the sides of the latter frequently spotted with the same: legs ferruginous, the four anterior palest. Female with the thorax strigose, and the tarsi simple.

Var. β . With the abdomen entirely ferruginous beneath.

The transverse streak at the base of the elytra varies considerably in width, and in some individuals it is broken in two.

I once met with this species in a pond in Battersea-fields: it has since been taken abundantly in Yaxley-fens by Messrs. Chant, Bentley, and Weaver. "One specimen found in the pond in the Botanic-garden, Cambridge."—*Rev. L. Jenyns.* "Pools, Netley."—*Rev. F. W. Hope.*

Sp. 2. Hybneri. *Niger, thorace antice lateribusque ferrugineo, elytris vittâ marginali flavâ.* (Long. corp. $6\frac{1}{2}$ —7 lin.)

Dy. Hybneri. *Fabricius.*—Hy. Hybneri. *Steph. Catal. p. 51. No. 520.*

Rather larger than the foregoing; deep black: head as in that insect: thorax moderately convex, with the anterior margin narrowly yellow, the sides broadly so, the base black in the middle: elytra slightly convex, glossy black, the exterior margin broadly yellow, posteriorly irrorated with black, the disc of each elytron with three striæ of minute impressions, the outermost obsolete: body glossy black beneath: four anterior legs pale testaceous, posterior pitchy-black. Female with the thorax strigose, and the tarsi simple.

Far less common than the last, with which it has frequently been taken in company. "Whittlesea Mere."—*Messrs. Bentley, Chant, and Dale.* "Pools, Netley."—*Rev. F. W. Hope.*

Sp. 3. stagnalis. *PLATE XII. f. 5.—Niger, capite thoraceque anticè, pedibusque anterioribus luteis, elytris nigris, margine lineisque luteis.* (Long. corp. 6— $6\frac{1}{2}$ lin.)

Dy. stagnalis. *Fabricius.*—Hy. stagnalis. *Steph. Catal. p. 51. No. 521.*

Black: head broadly yellow anteriorly, with the crown black, and bearing two transverse ferruginous spots: thorax moderately convex, reddish-yellow an-



teriorly, with a black patch in the middle of the base towards the sides, and sometimes a narrow transverse black streak anterior to the latter: elytra rather convex, above black, with the lateral margin broadly yellow, the disc of each with five or six slender luteous streaks, of which the sutural ones are broadest, and placed nearly parallel, the others are narrower, somewhat undulated, and placed rather obliquely; the suture itself is black, and each elytron has three striae of impressed dots: body pitchy-black beneath: four anterior legs luteous, the posterior pitchy-black. Female with the thorax strigose, and the tarsi simple.

Devonshire and Wilts are, I believe, the chief counties which have produced this fine, and apparently rare, insect. "In a pond near Exeter."—*Dr. Leach*. "In a pond at Netley."—*Rev. F. W. Hope*.

† Sp. 4. cinereus. *Luteo-testaceus, thorace anticè posticeque nigro, elytris ovalibus nigricantibus flavo-irroratis.* (Long. corp. 6 lin.)

Dy. cinereus. *Linne*.—Hy. cinereus. *Curtis*, ii. pl. 95.—*Steph. Catal.* p. 52. No. 522.

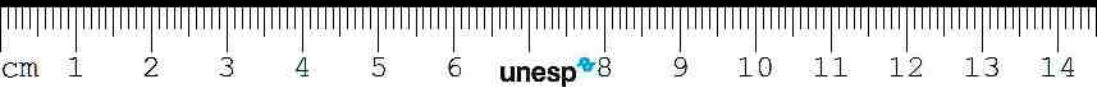
Luteo-testaceous: head ferruginous, with the crown and two transverse waved frontal lines black: thorax rather convex, with a black fascia on the anterior and posterior edges, the disc with some delicate abrupt impressed striae: elytra ovate, moderately convex, smooth, black, thickly irrorated with pale pellucid spots, the margin testaceous-yellow, the disc of each elytron with three impressed striae: body pale testaceous beneath, the sides of the abdomen obscurely spotted: legs pale testaceous: the female has simple tarsi, and the thorax more deeply lineated.

Two specimens, male and female, only of this insect have yet been taken in Britain; they occurred "the beginning of June 1825, at Whittlesea Mere."—*Messrs. Chant and Bentley*.

GENUS LXXXVII.—DYTICUS, *Geoffroy*.

Palpi, external maxillary, with the three last joints of nearly equal length, the last with its apex obliquely subtruncated: *labrum* obsoletely emarginate: *mandibles* truncate, emarginate: *mentum* trilobate, the central lobe bifid. *Antennae* with the second joint very short, the basal longest: *head* broad: *scutellum* distinct: *elytra* ovate, smooth, generally sulcated in the females: *legs* natorial: *anterior tibiae* short: *tarsi* with five joints: *claws* didactyle: *anterior tarsi* of the males patelliform, with suckers beneath; *intermediate* dilated at the base.

This conspicuous genus affords a remarkable example of the attention which is now paid to our indigenous coleoptera: till within these three years, when I first communicated the new acqui-



sitions to the Zoological Club of the Linnean Society*, three species alone were to be found in our cabinets, or had been recorded to inhabit Britain; the number has since been nearly trebled. Exclusively of their large size, which exceeds that of the other aquatics, excepting *Hydrous piceus*, they may be known from the rest of the family by the nearly equal length of the three terminal joints of the external maxillary palpi, and the oblique truncation of the last; the elongation of the first, and the brevity of the second, joint of the antennæ. The genus evidently contains several dissimilar forms, but as they are not readily discriminated without characters drawn from the disparities of sex, which are decidedly bad, I shall merely observe, that in the two first species both sexes have smooth elytra, in the remainder the females have them sulcated; again, the three first species are distinguished by considerable discrepancy in the size of the anterior claws in the respective sexes: the form of the furcate apex of the sternum differs according to the respective species.

A. With the margin of the elytra not dilated.

Sp. 1. *conformis*? *Olivaceo-nigricans, subtus testaceus, suturis pectoris nigris, thoracis limbo vittæque elytrorum marginali luteis, elytris posterius latioribus, sterni laciniis lanceolato-acuminatis.* (Long. corp. 1 unc. 4 lin.)

Dy. *conformis*? *Kunze*.—*Steph. Catal. p. 52. No. 524.*

Olive-black, the elytra throughout finely punctulated, and dilated as in Dy. *marginalis*: head impunctate, with the mouth and labrum dull ferruginous, and an obsolete triangular rufous spot on the forehead: thorax finely punctulated, the hinder margin sinuated, the anterior with an interrupted row of impressed dots, and all bordered with luteous, the sides most deeply so; the disc with a longitudinal line: elytra with three rows of impressed dots, the spaces between punctulated, especially towards the apex, the lateral margin yellow at the base to a little beyond the middle: body deep testaceous or yellow beneath, the sutures of the breast, and some fasciæ at the base of the abdomen, black; the laciniæ of the sternum lanceolate-acuminate: legs pale testaceous; claws black. Female similar, with very obsolete rudiments of sulci.

This species has been taken in Devonshire, near Ipswich, and, I believe, in Cambridgeshire. “Whittlesea Mere, once taken.”—*Mr. Chant.*

Sp. 2. *circumcinctus*. PLATE XII. f. 6.—*Subolivaceo-niger, subtus testaceus, immaculatus, thoracis limbo inæqualiter elytrorumque margine luteis, elytris serie punctorum inter singulas strias ordinarias, sterni laciniis acutis.* (Long. corp. 1 unc. 3—4 lin.)

Dy. *circumcinctus*. *Abrens*.—*Steph. Catal. p. 52. No. 523.*

* See Zoological Journal, vol. ii. p. 550.



Subolive-black, elytra scarcely dilated, with a series of remote impressions between the ordinary striæ: head obsoletely punctulated, with a small obsolete frontal lunule, and the anterior margin luteous-red: thorax, with the entire margin luteous, the lateral broadly, and the anterior and posterior, the latter especially, narrowly edged; the disc impunctate, with an abbreviated dorsal line, the base and apex with an interrupted row of impressions, and the lateral margins with a continuous scattered one: elytra oblong, rather convex, with three continuous punctate striæ, and a series of remote impressions between each; towards the apex more or less punctate, the lateral margin luteous: body beneath yellowish or deep ferruginous: the laciniae of the sternum very acute: legs testaceous. Female with the elytra smooth.

Several pairs of this insect have been taken, but the males are usually confounded, in most cabinets, with those of the following species; they may, however, be readily distinguished by their difference in form, and by their colour, both above and beneath. "Netley, Salop."—*Rev. F. W. Hope*. "June and July, 1824-5, Dykes in Yaxley-fens."—*Messrs. Chant and Bentley*. "Lawrence Waltham."—*Mr. Hanson*.

Sp. 3. *angustatus*. *Oblongo-ovatus, niger aut olivaceus, subtus testaceus, suturis pectoris nigris, thoracis limbo angustius, elytrorumque margine latius flavo-testaceis, sterni lacinii acutis, scutellum nigrum*. (Long. corp. 1 unc. 2—3½ lin.)

Dy. *angustatus mihi*.—*Steph. Catal. p. 52. No. 526*.

Oblong-ovate, black or olivaceous: elytra scarcely dilated: head as in the last: thorax also bordered as in it, with the posterior margin very narrow, and frequently obscured with fuscous clouds; the disc with a longitudinal line, and the margins punctured as in the foregoing: scutellum black: elytra oblong-ovate, not dilated, the lateral margins broadly testaceous or flavescent, the disc with three punctate striæ, the spaces between obsoletely punctulate towards the apex: body testaceous or yellowish beneath, the sutures of the breast black, the laciniae of the sternum very acute: legs testaceous. Female with the upper surface of the thorax, and of the elytra, thickly but finely punctate; the base of the latter deeply sulcated beyond the middle.

The female is probably the Dy. *dubius* of Gyllenhal.

Discovered at the same time with the former insect by Messrs. Chant and Bentley. "Bomere, Salop."—*Rev. F. W. Hope*. "Ponds near Bottisham, sparingly."—*Rev. L. Jenyns*.

Sp. 4. *circumflexus*. *Oblongo-ovatus, olivaceo-niger, subtus flavo-testaceus, suturis pectoris marginibusque segmentorum abdominis nigris, thoracis limbo elytrorumque margine latius flavo-testaceis, sterni lacinii acutis, scutelli medio flavo*. (Long. corp. 1 unc. 1—4 lin.)

Dy. *circumflexus*. *Illiger*.—*Steph. Catal. p. 52. No. 525*.



Very similar to the preceding, but known at once by its yellowish scutellum, form of the sternal lacinia, &c.: oblong-ovate, rich olivaceous, or olive-black: head as in the last, but the frontal lunule generally more distinct: thorax broadly margined throughout with yellowish, the posterior border rather undulated, and somewhat narrowed, the disc with an abbreviated dorsal line, and the anterior margin with a series of impressed dots, the lateral and posterior margins nearly impunctate: scutellum with its centre, and sometimes its apex, flavescent: elytra oblong-ovate, very little dilated, the lateral margin broadly flavescent; the disc with three punctate striae, the spaces between with a row of very remote, rather obsolete, impressions, and the apex with some scattered ones: body beneath bright testaceous-yellow, the sutures of the breast and the margins of the abdominal segments black: legs testaceous; the posterior, with the apex of the tibiae and the tarsi, pitchy-black. Female with the thorax and elytra above thickly punctate, the latter deeply sulcated beyond the middle.

Common in ponds round London; apparently rare elsewhere. "I never could detect this insect in Cambridgeshire."—*Rev. L. Jenyns*. "Lawrence Waltham."—*Mr. Hanson*.

Sp. 5. *marginalis*. *Olivaceo-nigricans, thoracis limbo elytrorumque margine luteis, elytris posticis latioribus undique punctulatis, intra apicem lunulâ flavescente, sterni laciniis subacutis.* (Long. corp. 1 unc. 1—4 lin.)

Dy. marginalis. *Linné*. *Don*, iv. pl. 161. *Steph. Catal. p.* 52. *No.* 527.

Oblong-ovate, elytra dilated behind the middle: head smooth glossy-black, with the labrum and anterior edge luteous, a triangular mark on the forehead rufous, and a slightly-elevated line on the crown: thorax rather arcuate behind, moderately convex, the disc glossy-black, with an obsolete dorsal channel, the margins entirely luteous, with an impressed punctulate stria: scutellum black: elytra anteriorly convex, nearly smooth, posteriorly depressed and punctate, the disc with three punctate striae; shining olive-black, with the lateral margin broadly luteous at the base, and narrowly towards the apex: body testaceous-yellow beneath, with the edges of the segments and middle of the sternum dusky, the lacinia of the latter broad, lanceolate: legs pale-testaceous. Female with the upper surface punctulated, the elytra deeply sulcated rather beyond the middle.

The most abundant species of this genus in Britain, occurring nearly in every pond and large expanse of water, throughout the year, in common with several other Dyticidæ. From the observations of Esper, this insect appears to possess considerable longevity (unless life were protracted through celibacy in the instance recorded by him): he tells us that he kept one in a vessel of water three years and a half, feeding it once a week, or oftener, with a piece of raw beef, the juice of which it devoured with avidity: it however occasionally fasted for a month. A specimen of *Hydroïus*



piceus being introduced, the *Dyticus* quickly despatched it, although as big again as itself, by seizing it in the only vulnerable part, between the head and thorax. It was very susceptible of atmospheric changes, which it indicated by its movements.

Sp. 6. *submarginatus*. *Suboblongo-ovatus, nigricans, thoracis limbo elytrorumque margine angustius luteis, sterni laciniis subacutis*. (Long. corp. 1 unc. 1 lin.)

Dy. *submarginatus mihi*. *Steph. Catal. p. 52. No. 528.*

Closely allied to the preceding, but appears to differ in having the sides of the elytra less dilated, with a narrower luteous margin, and in having the under side very little obscured in the centre of the sternum, and on the abdominal segments; the laciniae of the sternum appear rather more acute: in other respects similar. Female punctulated above, with the elytra deeply sulcated beyond the middle.

Probably not sufficiently distinct from Dy. *marginalis*.

Taken near London, but sparingly.

Sp. 7. *punctulatus*. *Undique niger, thoracis elytrorumque margine laterali luteo, sterni laciniis rotundatis*. (Long. corp. 11 lin.—1 unc. 2 lin.)

Dy. *punctulatus*. *Illiger. Don, xv. pl. 540. Steph. Catal. p. 52. No. 529.*

Black; head with the labrum and anterior edge luteous, and a rufo-ferruginous lunule on the forehead: thorax above convex, faintly channelled, the lateral margin alone broadly luteous, the anterior sometimes obscurely ferruginous: scutellum with the apex rufescent: elytra scarcely dilated, moderately convex, with the outer margin luteous, and three deeply-impressed punctate striae on the disc of each: body beneath with a few obscure ferruginous spots on each side; suture with its laciniae rounded at the apex: legs pitchy-ferruginous. Female finely punctate above, with the elytra deeply sulcated beyond the middle.

Not so common as Dy. *marginalis* and *circumflexus*, though frequently taken in ditches and ponds in the neighbourhood of London, especially in Battersea-fields, during the early summer months. "Very common in Cambridgeshire."—*Rev. L. Jenyns*.

Sp. 8. *dimidiatus*. *Niger, subtus testaceus, suturis pectoris nigris, thoracis elytrorumque margine laterali flavo, sterni laciniis obtusis*. (Long. corp. 1 unc. 5—6 lin.)

Dy. *dimidiatus*. *Bergstraesser. Curtis, iii. pl. 99. Steph. Catal. p. 52. No. 530.*

Black, shining; head with the mouth and a broad fascia in front luteous; and a reddish triangular mark on the forehead: thorax rather sinuated behind, with an obsolete dorsal line, the lateral margins broadly yellow, and the anterior and posterior obsoletely-ferruginous: elytra large, ovate, smooth anteriorly,



towards the apex subpunctate, the disc with three striæ of minute impressions, the lateral margin broadly luteous: body beneath testaceous, with the sutures of the breast black: sternum with the laciniae obtuse: legs pale-ferruginous. Female with the thorax and apex of the elytra punctate; the latter deeply sulcated at the base to the middle.

Discovered in June, 1824, in Yaxley-fens, by Messrs. Chant and Bentley: since taken in Whittlesea Mere, and in other parts. "In the pond in the Botanic garden, Cambridge; also in Bottisham-fen: the males appear to be more abundant than the females."—*Rev. L. Jenyns*. "Elsemere, and Bomere, Salop."—*Rev. F. W. Hope*.

GENUS LXXXVIII.—CYBISTER, *Curtis*.

Palpi, external maxillary with the second and third joints of equal length, elongate-obconic, the fourth longer, slightly dilated externally, truncate: *labrum* slightly emarginate: *mandibles* truncate obliquely: *mentum* trilobate, the central lobe truncate. *Antennæ* with the second joint extremely short, third longest: *head* rounded: *scutellum* distinct: *elytra* broad, ovate, smooth; strigulated at the base in the females: *legs* natatorial; *tibiæ* very short; *tarsi* five-jointed; posterior monodactyle: *anterior tarsi* patelliform in the males; *intermediate* simple.

The broadly-ovate and very depressed form of this genus well distinguish it from its affinities, but its chief characters are drawn from the form of the terminal joints of the palpi, and the brevity of the posterior tarsi; in this last particular, as well as by its depressed body, it is closely allied to *Acilius*; but from that, as well as the

B. Elytra with the margin dilated.

‡ Sp. 9. latissimus. *Niger, subtilius brunneus, elytrorum margine dilatato, vittâ laterali, thoracisque limbo toto luteis, sterni laciniiis acuminatis*. (Long. corp. 1 unc. 8 lin.)

Dy. latissimus. *Linne. Steph. Catal. p. 52. No. 531.*

Very broad, black above, shining; head as in Dy. dimidiatus: thorax truncate behind, with a dorsal line, smooth, the entire margin broadly luteous: scutellum ferruginous at the tip: elytra greatly dilated in the middle, the margin depressed and expanded; above convex anteriorly, depressed posteriorly, with a luteous streak within the margin, and a transverse one within the apex, the disc with two rows of impressions: body beneath glossy-brown, sternum with its laciniae acuminate at the apex: legs rusty-brown. Female with the elytra deeply and irregularly sulcate nearly to the apex.

Berkenhout gives this fine species as British, but I know not on what authority.



four last genera, it is at once known by the posterior monodactyle tarsi; although, in *Acilius*, one claw is exceedingly minute.

‡ Sp. 1. *Roeselii*. *Olivaceo-niger, clypeo thoracis elytrorumque margine exteriori flavis, elytris obsolete striatis.* (Long. corp. 1 unc. 1 lin.)

Dy. *Roeselii*. *Fabricius*.—Cy. *Roeselii*. *Curtis*, iv. pl. 151. *Steph. Catal.* p. 53. No. 532.

Olive-black, rather glossy: head with the clypeus and anterior margin ochraceous-yellow: thorax with a faint dorsal channel, the base obsoletely strigose; the lateral margin ochraceous: elytra a little convex, with three longitudinal striae of very remote impressed dots, the outer margin with a yellow or ochraceous streak, reaching from the base nearly to the apex, the margin itself olivaceous: body testaceous or ferruginous beneath: legs testaceous, the anterior palest; the posterior with the tibiae and tarsi pitchy. Female with the thorax thickly covered with irregularly-waved strigae; and the elytra with about five-sixths of the surface from the base with abbreviated, frequently anastomosing, longitudinal striae; the anterior tarsi simple: in other respects similar to the male.

Roesel having described the metamorphosis of this species, Fabricius, in commemoration thereof, named it after him.

The only indigenous specimen I have seen of this fine insect is a female, which was taken at the end of September, 1826, at Walton, in Essex: it is in the collection of J. H. Griesbach, Esq., who informed me, some time since, that a second example had occurred.

GENUS LXXXIX.—*ACILIUS*, *Leach*.

Palpi, external maxillary with the second joint shorter than the third, the terminal longer than the latter; swollen in the middle, attenuated and rounded at the apex: *labrum* very slightly emarginate: *mandibles* bifid at the apex: *mentum* transverse, scarcely emarginate anteriorly. *Antennae* with the first and third joints nearly equal in length, the second short: *head* small, rounded: *scutellum* distinct: *elytra* ovate, smooth, sulcate and hairy in the females: *legs* natatorial; *tibiae* short: *tarsi* five-jointed; posterior didactyle, the inner claw very minute: *anterior tarsi* patelliform in the males; *intermediate* simple in both sexes.

The fusiform terminal joint of the external maxillary palpi, and the superiority of its length over the penultimate, and the different form of the mentum, well distinguish this genus from all the preceding: the females have the elytra sulcated, the sulci thickly clothed with hair; and the males the anterior tarsi alone dilated.



Sp. 1. *sulcatus*. *Nigricans, lunulis quatuor frontaliibus, thoracis limbo fasciâque mediâ abbreviatâ utrinque dilatâ, luteis; corpore subtus nigro, lateribus ventris flavo maculatis, pedibus posticis nigris, femorum apice flavis.* (Long. corp. 7—9 lin.)

Dy. *sulcatus*. *Linnc. Don, ii. pl. 68. f. 5.—Ac. sulcatus. Steph. Catal. p. 53. No. 533.*

Dusky-black: head with the mouth, labrum, anterior margin, an angular mark on the forehead, two lunules on the crown, and a bent mark before each eye luteous: thorax finely and thickly punctured; with the anterior margin griseous-yellow, the disc also with a yellow fascia, which is dilated on each side into an angulated spot, and frequently unites at the posterior angle with the yellow margin: elytra very little convex anteriorly, depressed posteriorly, throughout thickly and finely punctured, griseous, thickly irrorated with dusky, with a narrow line down the suture, and the lateral margin yellowish; a transverse, waved, black cloud towards the apex, and three rows of black dots, placed longitudinally; the disc of each has also three very obsolete elevated lines: breast deep-black, thickly punctate; thorax beneath with a large yellowish spot; abdomen dusky-black, with an ovate yellow spot on the side of each segment, and the margins of the latter ferruginous; the lacinia of the sternum rounded, pitchy: four anterior legs yellow, with the upper surface of the patelliform tarsi black; posterior black, with the trochanters and apex of the femora yellow. Female with a triangular patch on each side of the thorax, and four broad sulci on each elytron clothed with griseous hair; the anterior tarsi simple.

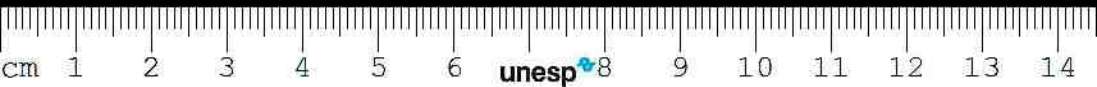
Var. β . With the fascia on the thorax interrupted in the middle, the elytra rather more thickly irrorated with black than in var. α .

Var. γ . With the margin of the thorax above luteous; in other respects similar to var. α .

† Var. δ . *Ac. varipes. Steph. Catal. p. 53. No. 534.* Thorax as in var. γ , with the limb fuscous: the anterior legs pitchy-yellow, with the base of the femora black: posterior black, with the apex of the femora clouded with rusty-pitchy and black.

† Var. ϵ . *Ac. scoticus. Curtis MSS.—Steph. Catal. p. 53. No. 535.* Thorax as in var. β , elytra rather deeply irrorated with black on the dilated outer margin near the apex: legs with the tibiae clouded with pitchy-black; the anterior, in the male, with the patelliform tarsi also pitchy-black above: the abdomen with small luteous spots on its edge, its segments ferruginous.

Having been favoured with the examination of two pairs of this last variety (ticketed by Mr. Curtis as *Ac. scoticus*), I feel satisfied that they are referable to *Ac. sulcatus* from not being able to detect any characters of sufficient importance to warrant their separation as a species; the mere suffusion of colour, without any difference in sculpture, in my opinion, not being characteristic of specific distinction: yet this is by several persons considered a good species; but upon this point I must refer to the Introduction to my Systematic Catalogue.



Extremely common in most places, frequenting every large patch of water throughout the country; var. δ (which upon a transient inspection I supposed to be a different species at the time my Catalogue was printing) was found in Worcestershire, and var. ϵ appears to be not uncommon in Scotland.

Sp. 2. canaliculatus. *Nigricans, capite antice lineâ transversa frontis, thoracis limbo fasciâque mediâ abbreviatâ, utrinque dilatâ, luteis; ventre pedibusque flavis.* (Long. corp. $6\frac{1}{2}$ —7 lin.)

Dy. canaliculatus. *Knoch.*—*Ac. canaliculatus.* *Steph. Catal.* p. 53. No. 536.—*Ac. caliginosus.* *Curtis, ii. pl.* 63.

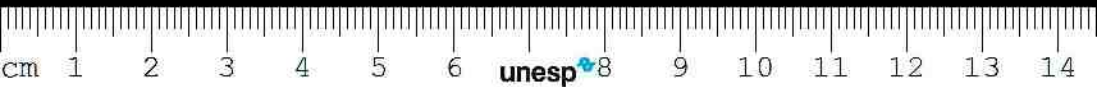
Rather less than the preceding; head anteriorly luteous, posteriorly black, with a transverse yellowish streak: thorax with its entire margin, and an abbreviated transverse discoidal fascia, dilated on each side into a somewhat rounded spot, luteous: elytra dilated about the middle, very thickly irrorated with dusky, with a very obsolete transverse black cloud towards the apex, and the outer margin and a narrow line down the suture yellow: breast black, thickly rugose-punctate: abdomen with the first segment entirely yellow, the rest yellow, with an abbreviated dusky black fascia at the base: legs pale luteous, immaculate. Female with the thorax glabrous: the elytra with four villose sulci: tarsi simple.

This fine species was discovered four years since in the fens of Huntingdonshire by the two industrious collectors under mentioned. "Stilton and Yaxley-fens, in July, 1824."—*Messrs. Chant and Bentley.* "In Scotland, near Edinburgh."—*Mr. Bainbridge.*

FAMILY IX.—GYRINIDÆ, *Leach.*

Antennæ very short, rigid, 9-jointed, the second with a lobate appendage, the rest forming a clavate cylindric mass: *body* oval, convex, or depressed, generally very glossy: *thorax* transverse, sinuated before and behind: *legs* unequal; the two anterior very long, gressorial; the four posterior short, compressed, formed for swimming: *eyes* apparently four, two above and two beneath the head; the latter deeply inserted into the thorax.

This family evidently contains several genera, but as they are for the most part exotic, I shall merely allude to them in this place: the generality of the species are of small size; the larger ones approximate to the Dyticidæ in form, but the structure of the antennæ and legs sufficiently distinguishes them. Their larvæ differ from those of the insects just named, by having on each side of the fourth, and seven following segments, a membranaceous conical appendage, which is flexible and bearded at the sides; these appendages com-



municate with the tracheæ by means of a small air tube; the last joint of the body is very small, and terminates in four long parallel hooks: they live in the water, and towards the middle of summer prepare an oval cocoon, pointed at each end, resembling brown paper, and fixed to the leaves or roots of plants.

GENUS XC.—GYRINUS *Auctorum*.

Palpi, external maxillary with the three first joints small, the terminal large, ovate; internal uniaarticulate: *labrum* short, transverse, sometimes projecting, ciliated anteriorly: *mandibles* short, bifid at the apex: *mentum* large, bilobed. *Antennæ* with the basal joint large, globose, produced externally in a triangular compressed lobe, the remaining joints forming the club: *head* trigonate: *body* convex: *elytra* generally covering the abdomen entirely: *anterior tarsi* of the males dilated.

The short, rigid antennæ, and elongate anterior legs sufficiently distinguish the indigenous Gyrini from the other Hydradephaga; but the genus as now constituted evidently contains two dissimilar forms; the first comprising those species which have the labrum short, the body moderately convex, very glossy, striated and naked, its apex projecting semicircularly beyond the elytra, and the latter subtruncate; the others have the labrum projecting, the body very convex, punctured, and villose, with its apex not produced beyond the elytra, but somewhat pointed; the former appear to be more gregarious than the latter, and may be observed during fine weather upon the surface of the water in clusters, rapidly whirling about in all directions, whence their names of water-flea or whirl-wig: sometimes they are motionless, but upon the approach of any one they are instantly in motion again, and if alarmed dive quickly, carrying with them a bubble of air, resembling a globule of quicksilver: in the evening or in dull and cold weather they are rarely to be seen, being at such times sheltered under the banks, or beneath the roots of plants. They seize their prey by means of their elongate anterior legs; many of the species secrete a fluid of a most disagreeable odour, which they eject when handled, and the scent will remain for some time on the fingers.

A. Elytra glabrous, punctate-striated.

Sp. 1. *æneus*. *Oblongo-ovatus, cæruleo-niger nitidissimus, subtius obscure æneus, capite, thoracis elytrorumque limbo et margine reflexo suturæque nitido-æneis.* (Long. corp. 3—3½ lin.)

Gy. *æneus*. *Leach MSS.—Steph. Catal. p. 53. No. 537.*

Oblong-ovate, very glossy blue-black: head brassy, very smooth, with two im-



pressions on the forehead: thorax above convex, with a crenated stria on each side within the anterior margin, and two rather obsolete ones towards the middle; the lateral margin bright æneous: scutellum brassy: elytra subovate, deeply punctate-striated, with the suture and outer margin bright-brassy, the reflexed margin deep pitchy-black, with a bright brassy gloss: body of a blue or greenish tinge beneath, glossed with brassy: legs rufo-ferruginous; the four posterior femora somewhat obscured with dusky: antennæ blue-black.

Extremely abundant in ditches by the side of the Surry Canal, near its junction with the Croydon. "Duddingstone-loch, near Edinburgh; in a deep pool in the river Dart; and in a pond near the river, not far from Spitchweek."—*Dr. Leach*. "Common near Bottisham."—*Rev. L. Jenyns*.

Sp. 2. *marinus*. *Oblongo-ovatus, nigro-cæruleus, nitidus, subtus æneus, elytris fortius punctato-striatis, margine inflexo æneo*. (Long. corp. $2\frac{1}{2}$ —3 lin.)

Gy. *marinus*. *Gyllenhal*. *Steph. Catal.* p. 53. No. 538.

Oblong-ovate, blue-black, shining: head and thorax sculptured as in the last, but without the brassy tinge: elytra but little dilated, rather deeply punctate-striated, shining blue-black, with the suture and margin greenish-brass, and the inflexed margin glossy-brass: body beneath shining brass: legs pale rufescent.

Var. β . With the scutellum, suture, and upper margin of the elytra concolorous.

Var. γ . *Steph. Catal.* l. c. var. β . With the disc of the elytra more or less ferruginous.

Distinguished from the last by its smaller size and less brilliant colours.

As its name indicates, this species usually frequents waters in the vicinity of the ocean. "Abundant near Carlisle; in Lochend, Scotland; and near Saltcoats, Devonshire."—*Dr. Leach*. "Common at Bottisham."—*Rev. L. Jenyns*.

Sp. 3. *minutus*. PLATE XIII. f. 2. *Oblongo-ovatus, supra cærulescente-virescens, nitidus, subtus rufo-testaceus, elytris punctato-striatis margine inflexo pedibusque testaceis*. (Long. corp. $1\frac{7}{8}$ — $2\frac{1}{2}$ lin.)

Gy. *minutus*. *Fabricius*.—*Steph. Catal.* p. 54. No. 539.

The least species of the genus: more elongate and slender than the next; deep glossy greenish-blue above: head and thorax as in Gy. *æneus*: scutellum short, sometimes æneous: elytra elongate, convex, rather deeply punctate-striate, deep blue-black, with the outer edges glossed with brassy; the inflexed margin pale-testaceous: the body beneath, and legs the same: the intermediate segments of the abdomen sometimes pitchy-black.

Rather a scarce species; not frequently met with near London, but more abundant near Bristol and Swansea. "Near Ashburton, Devon."—*Dr. Leach*. "Netley."—*Rev. F. W. Hope*.





Ch. Curtis sc.

London: Publ. by J. Sturges, 1786, 1820.

Ch. Curtis sc.



Sp. 4. *natator*. *Ovatus, cærulescenti-niger, glaberrimus, elytris subtilissimè punctato-striatis, margine subts ano pedibusque ferrugineis.* (Long. corp. $2\frac{3}{4}$ — $3\frac{1}{4}$ lin.)

Gy. *natator*. Linné.—*Samou. pl. 2. f. 2.*—*Steph. Catal. p. 54. No. 540.*

Ovate: glossy blue-black: head as in Gy. *æneus*, with the mouth rufescent: thorax anteriorly and posteriorly sinuated, above convex, with an arcuate crenated striga on each side within the anterior margin, and a simple obsolete one towards the middle of the disc: scutellum small: elytra subovate, attenuated posteriorly, above convex, very glossy, blue-black, greenish towards the margins, very finely punctate-striate, the inflexed margin pale testaceous: body shining brassy-black beneath, with the apex ferruginous, the breast testaceous, and the legs pale ferruginous.

Abundant in ponds and stagnant waters in several parts of the kingdom.

Sp. 5. *substriatus*. *Subovatus, cærulescenti-niger, nitidus, elytris tenuissimè punctato-striatis, margine inflexo ferrugineo.* (Long. corp. 3 lin.)

Gy. *substriatus mihi*.—*Steph. Catal. p. 54. No. 541.*

Head and thorax as in Gy. *natator*: elytra deep blue-black, obscurely tinged with greenish on the outer margins, the disc very slightly striated, the striæ composed of remote punctules; the inflexed margin deep ferruginous: body beneath as in Gy. *natator*.

Similar to the last, but differs in the very obsolete striation of the elytra: it may possibly be a mere variety, but I have seen many specimens.

Taken near London, and in Devonshire. "Yaxley-fens, June and July."—*Mr. Chant*. "Common near Bottisham."—*Rev. L. Jenyns*. "Kimpton."—*Rev. G. T. Rudd*.

Sp. 6. *lineatus*. PLATE XIII. f. 2.—*Ovatus, supra æneo-niger, infra piceo-ferrugineus, elytris obsoletissimè punctato-striatis, lineis longitudinalibus subaneis ornatis, margine inflexo ferrugineo.* (Long. corp. 3 — $3\frac{1}{2}$ lin.)

Gy. *lineatus*. *Hoffmansegg*.—*Steph. Catal. Appendix.*

Ovate; deep brassy-black above, very glossy: head as in Gy. *natator*, with the labrum bright *æneous*: thorax and elytra also as in the last-named insect, but the latter with the striæ nearly entirely obliterated, especially on the back, and their places occupied by several longitudinal rather obscure streaks or lines, appearing rufescent in certain lights; the outer margin is greenish-brass, and the inflexed one ferruginous: body beneath entirely pitchy-ferruginous, with the legs paler.

"Slapton Ley, near Dartmouth, middle of June, 1828."—*Messrs. Chant and Bentley*.

Sp. 7. *bicolor*. *Oblongus, subcylindricus, nigro-cærulescens, glaberrimus, elytris subtilissimè punctato-striatis, margine inflexo, pedibusque ferrugineis.* (Long. corp. 3 — $3\frac{3}{4}$ lin.)

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II

Gy. bicolor. *Fabricius*.—*Curtis*, ii. pl. 79.—*Steph. Catal.* p. 54. No. 542.

Elongate, subcylindric, very smooth blue-black: head, thorax, and scutellum exactly as in *Gy. natator*: elytra very much elongated, and slightly attenuated posteriorly; the disc very finely punctate-striate, and of a deep blue-black, with the margins æneous, the inflexed one ferruginous: middle of the breast ferruginous; abdomen beneath blackish-brass, with the apex of the last segment pitchy: legs rufo-testaceous. Female rather broader, and longer in proportion than the male.

Not common; found in Norfolk and Suffolk. "Near Southend, and at Tenbury, Worcestershire."—*Rev. F. W. Hope*. "Salt marshes and lakes in Devonshire, during the spring."—*Dr. Leach*.

B. Elytra villose, punctate.

Sp. 8. villosus. *Oblongus, supra niger, griseo-pubescent, subtus flavus, elytris vagè punctatis*. (Long. corp. $2\frac{3}{4}$ — $3\frac{1}{4}$ lin.)

Gy. villosus. *Illiger*.—*Steph. Catal.* p. 54. No. 543.

Oblong, convex, subfusiform; above dusky-black, rather glossy, and thickly clothed with a short grayish down: head finely punctulated, a little brassy; the margin of the labrum with elongate pale cilia: thorax very convex, faintly punctulated, and slightly tinted with æneous: elytra elongate, very convex, arched, covering the abdomen, above thickly punctate, the lateral margin pale rufescent: the body testaceous-yellow beneath, the abdomen frequently yellow, the terminal segment narrow, conic, with a tuft at the apex: legs pale: antennæ pale at the base and apex, with the intermediate parts pitchy-black.

This species generally frequents rivers and running water, but is rare near London. "Common on the Dart, and in rivulets on Dartmoor."—*Dr. Leach*. "Netley, rare."—*Rev. F. W. Hope*. "Slapton Ley, in June last."—*Mr. Chant*.

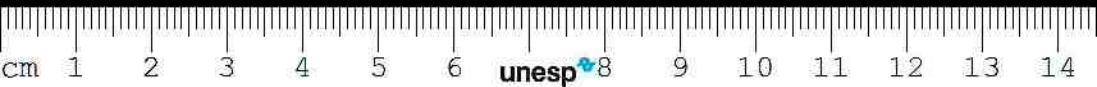
Section II.—RYPOPHAGA,

Or *Cleanders*, may be characterized by having *four palpi* only, two labial and two maxillary; the *internal maxillary* being represented, according to the analytical views of Mr. Mac Leay, by the external lobe of the *maxilla*, which is generally dilated, and frequently articulated, though rarely palpiform: the *antennæ* clavate, or gradually thickening from the base to the apex.

This section, following the views of the last-named writer, is divisible into three others; of which the first that presents itself is

Subsection 3.—PHILHYDRIDA, *Mac Leay*,

Or such insects as have the *mandibles* rarely exerted: the *maxillary palpi* usually four-jointed: the *maxillæ* with the outer lobe generally articulated: the *elytra* covering the abdomen: the *body* mostly short, convex, or rounded on the



back: the *posterior legs* in the typical families formed for swimming, but in the others gressorial: the *tibiæ* spinose, or simple: and the *tarsi* with the number of articulations various.

Notwithstanding the apparent discrepancy of structure among the insects of this group, the latter, in their perfect state, appear destined to cleanse the surface of nature from the decayed remains of vegetable matter, as those of the following subsections do from animal impurities; though the typical family, in the larva state, are decidedly carnivorous, and feed upon living aquatic mollusca, while the conterminous group of Anisotomidæ subsist chiefly upon fungi, and the families of Parnidæ and Heteroceridæ are supposed to devour animal substances alone.

The insects of the typical family reside, in their first and final states, in the water, and swim well; whereas those of the four families preceding them generally prefer the banks, and may be said rather to walk in the water than swim: the succeeding insects frequent damp pastures, burrowing, by means of their spinous *tibiæ*, into their pabulum, the dung of herbivorous mammalia, as the Anisotomidæ do into fungi; and thus resemble the Heteroceridæ, which also burrow by similar means.

It has ever appeared extraordinary to me that Latreille and others should have separated the insects of this group, by the intervention of totally dissimilar objects, from the Hydradephaga, with which they are evidently so intimately connected in habit: it therefore afforded me great satisfaction to find that the views of the learned author of *Annulosa Javanica* corresponded so nearly with my own on this point; though I fear that my limited knowledge of exotic forms may cause me to do violence to nature by proposing the following arrangement of the indigenous families contained in this subsection:

Antennæ	{	extrorsum crassiores	{	haud serrata, {	moniliformes: . . .	16. ANISOTOMIDÆ.
				sæpissime	filiformes: . . .	12. LINNIIDÆ.
				plus minusve ser- rata: <i>Tarsi</i>	4-articulati: . . .	10. HETERO CERIDÆ.
					5-articulati: . . .	11. PARNIDÆ.
		clavatæ: {	minuto: <i>Mandibulæ</i> {	inermes: . . .	13. HELOPHORIDÆ.	
		<i>Tarsi</i> }	ad apicem }	bidentatæ: . . .	14. HYDROPHILIDÆ.	
		articulo {	longiori: . . .		15. SPHÆRIDIDÆ.	
		primo }				

FAMILY X.—HETEROCERIDÆ, *Mac Leay*.

Antennæ short, 11-jointed, the two basal joints large, the remainder forming an obsoletely serrated mass; *body* rather depressed: *head* elongate, inserted up to the eyes in the *thorax*, the latter transverse, subovate; *legs* alike; *tibiae* compressed, spinose: *tarsi* four-jointed.

Of this family also there is but one indigenous genus, and, like the Parnidæ, their history is unknown, though it is supposed, from the structure of their trophi, that they subsist upon animal matter: they inhabit damp situations, especially the muddy banks of rivers, and on the sands of the ocean, into which they burrow, by means of their fossorial legs.

GENUS XCI.—HETEROCERUS, *Bosc*.

Palpi very short, three-jointed; *maxillary* with the terminal joint securiform; *labial* with the last joint conic, truncate: *labrum* hairy, semiorbicular: *mandibles* tridentate at the apex, with a membranous lobe internally; *maxilla* with the external lobe rhomboidal, the internal obtuse: *mentum* subcordate, deeply emarginate: *labrum* elongate. *Antennæ* with the basal joint very large, the second smaller, cup-shaped; the two following minute, the remainder forming a subserrated club: *body* oval, subconvex, pubescent. *Males* more slender and cylindric than the females.

At least five species of this genus appear to inhabit Britain: they are remarkably variable, and much confusion has arisen through the various opinions of authors respecting the distinction of the species and varieties: they inhabit, as before stated, the muddy banks of rivers, and may be obtained by trampling on the ground, when the little animals, aroused by the sudden noise, shortly make their appearance, but if not quickly secured, soon burrow again beneath a fresh portion of the soil, or hide themselves in the crevices formed by the drying of the latter.

Sp. 1. *marginatus*. *Fuscus, pubescens, elytris pallide ferrugineo-maculatis, pedibus fuscis, tarsis testaceis*. (Long. corp. $1\frac{3}{4}$ — $2\frac{1}{2}$ lin.)

He. marginatus. *Fabricius*.—*Steph. Catal. p. 55. No. 549*.

Dusky or pitchy, pubescent, very finely punctulate: head and thorax immaculate, the latter sometimes with a ferruginous tinge at the anterior angle: elytra with the margin and several irregular spots on the disc, more or less confluent or obliterated, pale ferruginous: legs fuscous, with the tarsi testaceous: antennæ pale, with the club dusky.

Not common near London: in plenty on the north-western coasts.



"Near Aberystwith."—*Rev. F. W. Hope*. "In a mud-bank near Tottenham."—*Mr. Stone*.

Sp. 2. *flexuosus*. *Fuscus, pubescens, elytris luteis, vittâ longitudinali flexuosa nigra, pedibus fuscis, tarsis piceis*. (Long. corp. 2 lin.)

He. flexuosus mihi.—*Steph. Catal. p. 55. No. 553*.

Fuscous, pubescent, finely punctured: head and thorax immaculate: elytra luteous, with a longitudinal flexuous stripe, composed of irregular black spots, an elongate black patch at the humeral angle, and a rather obsolete one a little behind the middle towards the suture, the apex immaculate: body beneath, and legs, fuscous, the latter with the tarsi pitchy.

Taken on the banks of the Thames, beyond Gravesend.

Sp. 3. *Marshami*. *Niger, puncto ad basin thoracis apicemque elytrorum luteo obscuro, pedibus luteis*.—*Marsham MSS.* (Long. corp. $1\frac{1}{4}$ lin.)

He. Marshami mihi.—*He. obsoletus. Marsham MSS.—Steph. Catal. p. 55. No. 550*.

Similar to the following, but less than var. β : the entire body dusky-black, tomentose: thorax with a small obscure luteous spot in the middle of the base; the elytra also, towards the apex, have a similar spot: body beneath dusky black: legs luteous.—*Marsh. MSS.*

The name *obsoletus*, which was obtained from my rough Catalogue, having been erroneously, though perhaps not inaptly, applied to another species of this genus, it has become necessary to change the one printed in the Catalogue itself, from the *MSS.* of Mr. Marsham, whose specific character and description, above given, evidently do not apply to the insect which has lately been published as the *He. obsoletus* of Leach *MSS.*; a name which neither occurs in the Doctor's *MSS.* nor in the collection at the British Museum.

I am not aware of the locality of this species, but as Mr. Marsham obtained it from Mr. Spence, I presume it inhabits the banks of the Humber.

Sp. 4. *lævigatus*. *Fuscus, pubescens, elytris maculis in fascias irregulares dispositis, pedibusque testaceis*. (Long. corp. $1\frac{1}{2}$ — $2\frac{1}{4}$ lin.)

He. lævigatus. Fabricius.—Steph. Catal. p. 55. No. 551.

Fuscous, glossy, finely punctured, and slightly pubescent: head and thorax generally immaculate, the latter rarely with a pale spot at the anterior angle: elytra with the margin and several large, subquadrate, pallid spots, disposed in three irregular fasciæ: these spots are very variable in form and size; they are sometimes nearly confluent, at others distinct; and are usually placed, two longitudinally towards the scutellum, two others behind these, near the suture, and a third pair towards the apex of each elytron; the pale outer margin of the latter is indented opposite the intermediate space: the body is frequently testaceous beneath; and the legs pale-testaceous, with the tibiae sometimes dusky.



Var. β . *He minutus*? *Steph. Catal. p. 55. No. 554.* Rather less, and considerably more narrow, with the spots on the elytra somewhat distinct: probably the male.

More frequent near London than *He. marginatus*, and also found in Norfolk and Suffolk. "On Wandsworth-common, in the spring."
—*Mr. Ingpen.*

Sp. 5. *obsoletus. Niger, hirtus, thorace anticè maculâ luteâ utrinque, elytris circiter punctis septem pallide ferrugineis aut ochraceis, pedibus nigris.* (Long. corp. 2—3 lin.)

He. obsoletus. Curtis, v. pl. 224.—He nebulosus mihi.—Steph. Catal. p. 55. No. 552.

Dusky-piceous or black, shining, very finely and thickly punctured, and pubescent: thorax with a luteous spot on each side, at the anterior angle: elytra with about seven or eight pale ferruginous or ochraceous spots on each, one near the scutellum, frequently obsolete, three placed somewhat triangularly before the middle, beyond these a larger lunate one near the suture, and finally three small ones, placed triangularly near the apex: the mandibles, spines on the tibiæ, and apex of the tarsi castaneous.

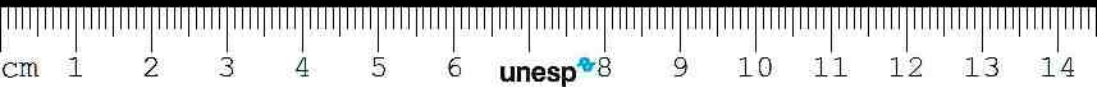
This insect stands in the collection at the British Museum as *He. marginatus*: that it is the species thus called by Marsham, his character, "*hirtus, niger, elytris punctis septem ferrugineis,*" as well as his habitats, "*prope Harvici oppidum, Maio. Prope Sheerness copiose, Septembre,*" and one of his authentic specimens in my collection sufficiently testify.

In the utmost profusion on the shores of the Thames and Medway. "Plentiful near Rochester."—*Professor Henslow.* "The Isle of Sheppy, in June last."—*Rev. F. W. Hope.*

FAMILY XI.—PARNIDÆ, *Leach.*

Antennæ very short, 9-jointed; the second with a lobate appendage, the rest forming a clavate mass: *body* subcylindric, convex, margined: *head* deeply inserted into the *thorax*; the latter subquadrate, slightly narrowed anteriorly: *legs* similar, all formed for walking; *tibiæ* cylindric, incurved: *tarsi* filiform, elongate, all five-jointed.

One genus only of this family has been found in Britain, which inhabits the borders of ponds and ditches during the spring; but although often found on the surface of the water, they are incapable of swimming: their food is unknown, but it is presumed to consist of animal matter, from the form of the maxillæ and mandibles.



GENUS XCII.—PARNUS, *Fabricius*.

Palpi short, *maxillary* four-jointed, subfiliform, the terminal joint largest, ovate-conic, apex acute: *labial* three-jointed, terminal joint oval: *labrum* slightly emarginate: *mandibles* bidentate at the apex, with two smaller teeth below: *maxillæ* with the external lobe subquadrate, with a spine at the inner angle; the internal slender, acute, articulated near the apex: *mentum* transverse-quadrate: *labium* subquadrate. *Antennæ* with the claws subserrated, the dentations obtuse: *thorax* with a longitudinal impressed line on each side: *legs* moderate, anterior and intermediate of nearly equal length.

The habits of the Parni are evidently analogous to those of the Gyrini and Heteroceræ, although their structure differs so remarkably, especially from the former group: their curious antennæ readily discriminate them from all the other British genera excepting Gyrinus, to which they are remotely similar in form; but the clavate mass in that genus is cylindric and rigid, whereas in Parnus it is internally produced and serrated. The species have been but little attended to, and confusion, the usual consequence, has been the result.

Sp. 1. *prolefericornis*. *Elongatus, olivaceo-griseus, tomentosus, subtilissime punctatus, elytris obsoletissime substriatis*. (Long. corp. 2—2 $\frac{3}{4}$ lin.)

Pa. *prolefericornis*. *Fabricius*.—*Steph. Catal. p. 54. No. 544.*

Elongate; olivaceous, densely villose, minutely punctured: head dusky: thorax very convex, disc without a fovea: elytra thickly and finely punctured, very obsoletely striated, especially on the sides and towards the apex: body ashy-brown beneath, pubescent; legs dull-ferruginous, with the tibiæ dusky.

Very abundant in April at the roots of grass and subaquatic plants on the borders of a pond in Battersea-fields, and on Wandsworth-common: also on the banks of ditches on Ockham-heath, near Ripley, at Hertford, &c. "Near Epping."—*Mr. Doubleday*. "Netley, Salop."—*Rev. F. W. Hope*.

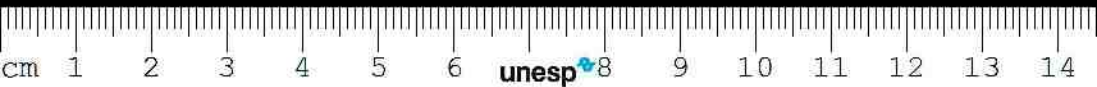
Sp. 2. *sericeus*. *Elongatus, olivaceo-griseus, sericeo-tomentosus, subtilissime punctatus, elytris basi substriatis*. (Long corp. 2 $\frac{1}{4}$ lin.)

Pa. *sericeus*. *Leach, MSS.—Samou. pl. 3. f. 10. Steph. Catal. p. 54. No. 545.*

Elongate, olivaceous, clothed with rich silken down; minutely punctured, the elytra substriated at the base: thorax not foveolated.

This appears to me to be merely a variety of the foregoing, differing in having the pubescence on the body of a richer hue than usual.

Taken in Battersea-fields and elsewhere, not uncommonly, in the spring.



Sp. 3. *impressus*. *Elongatus, olivaceo-fuscus, villosus, subtilissimè punctatus, thoracis disco bifoveolato.* (Long. corp. $2-2\frac{1}{4}$ lin.)

Pa. *impressus*. *Curtis*, ii. pl. 80.—*Steph. Catal.* p. 54. No. 546.

“Olivaceous-brown, minutely punctured, villose: thorax with a fovea on each side, near the base, equidistant from the margin and each other: elytra with seven or eight obscure punctured striæ on each: serrated mass of antennæ, thighs at the base, apex of tibiæ, tarsi, and claws, ferruginous: beneath ferruginous-olive, with ochraceous pubescence.”—*Curtis*, l. c.

This also appears to be a variety of Pa. *prolefericornis*, as I have several specimens of that insect in which the thoracic foveæ are more or less evident.

Taken near London; in Battersea-fields: and I believe in Norfolk.

Sp. 4. *auriculatus*. *Ovatus, niger, hirtus, crebre punctatus, pedibus rufo-piceis.* (Long. corp. $2-2\frac{1}{2}$ lin.)

Dr. *auriculatus*. *Olivier*.—Pa. *auriculatus*. *Steph. Catal.* p. 54. No. 547.

Ovate, black, hairy: head and thorax rather deeply punctured, a little glossed with fulvescent, the margins of the latter very narrow anteriorly; scutellum fulvescent: elytra rather shining, deeply punctured, and clothed with rather distant, erect, fuscous hair: body pitchy-black beneath, with fulvescent pubescence: legs rufo-piceous, the tibiæ dusky.

Less abundant than Pa. *prolefericornis*; and seldom taken near London. “Wandsworth-common.”—*Mr. Westwood*.

† Sp. 5. *bicolor*. *Niger, subtilissimè punctatus, elytris, pedibus antennisque ferrugineis.* (Long. corp. 2 lin.)

Pa. *bicolor*. *Curtis*, fo. 80.—*Steph. Catal.* p. 54. No. 548.

“Minutely punctured, with coarse, imperfect striæ at the base of the elytra: head and thorax black; elytra, legs, and antennæ, ferruginous.”—*Curtis*, l. c. Probably an immature state of one of the preceding species.

Taken, I believe, in Norfolk.

FAMILY XII.—LIMNIIDÆ.

Antennæ rather long, nine or eleven-jointed, subfiliform, the last joints rather larger, and forming a club: *palpi* short: *body* ovate, or subglobose, convex above: *head* inflexed, deeply inserted in the *thorax*, which is more or less quadrate and margined: *legs* elongate, alike; *tibiæ* slender, not spinose: *tarsi* elongate, four or five-jointed.

Without professing to be an adept in the doctrine of affinity and analogy, I consider that the insects of this family are far more closely allied to the other Philhydrida, notwithstanding their discrepancy of structure, than to the Byrrhida or Histerida, with



which they are usually associated; their habits are similar to those of the former insects, and unlike those of the latter: their location is, however, somewhat exceptionable; but I know not better where to place them, unless by approximating them to *Heterocerus*, through the medium of *Georyssus*, and to *Parnus*, by means of *Elmis*: the latter genus, in external characters, somewhat resembling *Parnus*; and *Georyssus* having also considerable affinity to *Heleplorus* in the structure of the maxillæ and labium.

Two genera only occur in Britain; thus discriminated:

Antennarum capitulo { triarticulato: 93. GEORYSSUS.
uniarticulato: 94. ELMIS.

GENUS XCIII.—GEORYSSUS, *Latreille*.

Palpi short, subequal, with the last joint longer, stouter, ovate. *Antennæ* nine-jointed, the first elongate, subcylindric; second globose, stout; third very short; fourth elongate, cylindric; the two following very short, the remainder forming a subsolid, or obsoletely perfoliated club: *head* greatly inflexed, hidden beneath the *thorax*, which is margined: *body* rather short and globose: *legs* moderate; *tibiæ* slender, slightly excavated, laterally; *tarsi* elongate, filiform, four-jointed.

This anomalous genus may be distinguished from *Elmis* by having four joints only to the tarsi; by the antennæ being nine-jointed only; by the superior robustness of the terminal joint of the palpi, and by the short, globose body.

Sp. 1. *pygmæus*. PLATE XIII. f. 3. *Niger, fronte rugulosâ, elytris profundè punctato-striatis, humeris prominulis.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Pi. *pygmæa*. *Fabricius*.—Ge. *pygmæus*. *Steph. Catal. p. 55. No. 555.*

Minute; black: head opaque, with the forehead unequally rugged: thorax rather shining, narrowed anteriorly, dilated on the sides beyond the middle, the base subsinuated, the disc nearly smooth posteriorly, with a transverse impression beyond the middle, and towards the sides a little rugged: elytra more glossy than the thorax, very convex, with the shoulders prominent, the disc striated with large deep impressions, the interstices finely coriaceous: body opaque black beneath, obsoletely punctate: legs black: antennæ fuscous.

Var. β . The elytra dusky-pitchy.

Inhabits damp places in Norfolk and Suffolk, and is occasionally taken near London.

GENUS XCIV.—ELMIS, *Latreille*.

Palpi very short, nearly filiform, the last joint slightly larger, ovate-cylindric.

Antennæ 11-jointed, subfiliform, the joints nearly equal, the last rather larger,



suboval: *head* inserted up to the eyes in the *thorax*, which latter is subquadrate and margined: *body* ovate, stout: *legs* elongate: *tibiæ* very slender, subcylindric, unarmed: *tarsi* nearly as long as the *tibiæ*, 5-jointed.

Latreille drew up the characters of this genus by the name above employed in his *Histoire Naturelle des Fourmis*, published in 1802, giving as the type *El. Maugetii*; and in the same year Illiger, in the first vol. of his *Magazin*, applied the name *Linneus* to *El. Volkmar*i, without characters, vide *Ill. Mag.* i. 297. I have therefore followed the former author (not from the mere circumstance of his having *detailed the characters*, but from the impossibility of determining to whom the priority of *distinguishing the genus* was due, as their respective works appeared simultaneously), in conformity to the generally received views of modern writers; though I have, perhaps inconsistently, used the term *Limniidæ* to designate the family.

Elmis differs from *Georyssus* by its somewhat elongate, convex, body, the five-jointed tarsi, eleven-jointed antennæ, and subfiliform palpi: the species all inhabit gently flowing pebbly brooks and rivers, and may be found beneath the stones.

A. Thorax with elevated lateral lines.

a. *Thorax without a transverse elevated posterior fold.*

Sp. 1. *Volkmar*i. *Oblongus, nigro-subæneus, thorace subquadrato elytris convexiore, punctulato, nitido, lineato, lineis antice conniventibus.* (Long. corp. $1\frac{1}{4}$ — $1\frac{3}{4}$ lin.)

Dy. *Volkmar*i. *Panzer*.—*El. Volkmar*i. *Steph. Catal.* p. 53. No. 556.

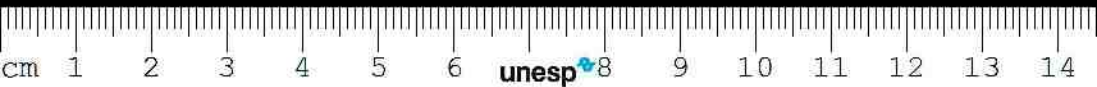
Oblong-ovate, black, tinged with brassy, or greenish: head finely punctulate: antennæ obscure brown, with the base paler: thorax subquadrate, more convex than the elytra, punctured, shining æreous-black, with an elevated longitudinal line on each side, remote from the lateral margin, and approaching to each other anteriorly; when viewed laterally these lines nearly disappear: elytra rather shining, regularly and somewhat deeply punctate-striated, the striae about eight in number, the interstices finely punctulate, and clothed with a scanty down: body beneath and the legs of a dusky or cinereous-black, or pitchy, clothed with a yellowish down: tarsi ferruginous.

Not common; found in Norfolk, and sometimes near London.

“In a mill-stream near Hatfield in June.”—*Mr. Westwood*.

Sp. 2. *tuberculatus*. *Oblongus, fusco aut piceo-æneus, antennis pedibusque rufescentibus, thorace bilineato, nitido, coleoptris basi obsolete bituberculatis.* (Long. corp. $\frac{1}{2}$ — $\frac{3}{4}$ lin.)

Li. *tuberculatus*. *Illiger*.—*El. tuberculatus*. *Steph. Catal.* p. 55. No. 557.



Oblong; fuscous or pitchy-brassy: antennæ rufescent: thorax with an elevated line on each side, approximating in front, the intermediate space very glossy and punctulate, the exterior margin rather opaque: elytra slightly tuberculate at the base, and transversely impressed; the disc æneous, rather obsoletely punctate-striated, the third stria from the margin rather elevated, and a little remote from the second, the interstices finely punctated: the body pitchy-brown, and punctulated beneath: legs rufescent.

Found in Suffolk, and, I believe, also in Norfolk and near Hull.
 "Clengre, Gloucestershire."—*Rev. F. W. Hope.*

Sp. 3. *variabilis*. PLATE XIII. f. 4.—*Angustior, nigro aut piceo-æneus, antennis pedibusque rufescentibus, thorace subnitido, bilineato, coleoptris basi simplicibus.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Li. *variabilis*. *Leach MSS.*—El. *variabilis*. *Steph. Catal. p. 56. No. 558.*

Oblong, rather narrow and depressed; black or pitchy-brass: antennæ and legs rufescent: thorax with an elevated line on each side, approximating considerably in front, the intermediate space rather opaque, and obsoletely punctulated: elytra with the base simple; the disc frequently rufescent, sometimes pitchy or brassy-black, rather faintly punctate-striated, the three marginal striæ slightly elevated, the interstices obsoletely punctured: body pitchy beneath.

I believe this species chiefly frequents hilly districts. "Near Carlisle and Spitchweek."—*Dr. Leach.* "Netley, Salop."—*Rev. F. W. Hope.*

Sp. 4. *lacustris*. *Brevior, ovatus, rufo aut piceo-æneus, antennis pedibusque rufescentibus, thorace bilineato, coleoptris basi haud tuberculatis.* (Long. corp. $\frac{1}{2}$ — $\frac{3}{4}$ lin.)

El. *lacustris*. *Spence MSS.*—*Steph. Catal. p. 56. No. 559.*

Shorter than the foregoing, ovate; rufous or pitchy-brass, with the antennæ and legs rufescent: thorax as in the last, but broader and more glossy, and the lateral striæ less approximating anteriorly: elytra not tuberculated at the base punctate-striated, the third stria from the margin elevated, and rather remote from the second; the margin rather opaque, and the disc glossy, and frequently rufescent: body beneath pitchy.

Taken near Hull; my specimens I obtained from the Marshamian collection.

Sp. 5. *fluviatilis*. *Brevior, ovatus, æneo-niger, antennis, tibiis tarsisque rufescentibus, elytris obsoletissime punctato-striatis, haud tuberculatis.* (Long. corp. $\frac{5}{8}$ lin.)

El. *fluviatilis mihi*. *Steph. Catal. p. 56. No. 560.*

Shorter and broader than El. *lacustris*; ovate, brassy-black; with the antennæ, tibiæ, and tarsi alone rufescent: the thorax with the usual approximating lateral lines, with the intermediate space rather depressed, glossy, finely and



thickly punctulate, the margins rather opaque: elytra with the disc æneous, very faintly punctate-striated, the three lateral striæ elevated, the third being somewhat remote from the second; the base not tuberculated: body piceous, clothed with cinerous down beneath.

My specimen of this species was taken in Norfolk.

Sp. 6. *parallelipedus*. PLATE XIII. f. 5.—*Lineari-oblongus, niger, nitidus, antennis pedibusque rufis, thorace quadrato, bilineato nitidiore, corpore subdepresso*. (Long. corp. $\frac{5}{8}$ lin.)

Li. *parallelipedus*. Muller.—El. *parallelipedus*. Steph. Catal. p. 56. No. 561.

Oblong, linear, depressed, glossy black, with the antennæ and legs rufescent: the thorax quadrate, very glossy, with a curved line on each side, scarcely approximating anteriorly; the intermediate space obsoletely punctulated, with a central impressed dot, the margin rather opaque, and considerably elevated laterally: elytra depressed, elongate; the disc distinctly punctate-striated, the lateral striæ elevated, the third from the margin especially, the interstices impunctate, and very glossy: body pitchy-black beneath.

I have seen four examples only of this species, all of which were taken, I believe, near Exeter, by W. Spence, Esq., who kindly supplied me with a specimen.

b. *Thorax with a transverse elevated posterior fold.*

Sp. 7. *æneus*. *Niger, subæneus aut æneus, antennis tarsisque rufescentibus, elytris basi thorace latioribus*. (Long. corp. $1-1\frac{1}{4}$ lin.)

Li. *æneus*. Muller.—El. *æneus*. Steph. Catal. p. 56. No. 562.

Blackish-brass, or bronzed, shining: head obsoletely punctate, dull black: thorax subquadrate, very convex, black, slightly glossed with æneous, finely punctulated; the disc anteriorly with an elevated straight line on each side, parallel with the lateral margin, behind the middle with an abbreviated transverse impression, connected with the lateral line, and the posterior margin, behind the impression elevated: elytra broader than the thorax at the base, oblong-ovate, very convex, slightly pubescent, deeply punctate-striated, the interstices finely punctulate, the alternate ones slightly elevated, and the sixth from the suture somewhat carinated: body beneath clothed with a dense golden down: legs pitchy-black, the base tomentose, and the tarsi rufescent: antennæ rufescent, with the apex dusky.

The most abundant species of the genus, taken occasionally in streams in the marshes, by the junction of the Surry and Croydon canals. "Near Hatfield in June, copiously."—Mr. Westwood. "Netley, Salop."—Rev. F. W. Hope.

Sp. 8. *Maugetii*? *Ovatus, niger, antennis tarsisque ferrugineo-brunneis, elytris basi thorace subæqualibus*. (Long. corp. $1-1\frac{1}{4}$ lin.)

El. *Maugetii*. Latreille?—Steph. Catal. p. 56. No. 563.

Ovate, black, shining: thorax as in *El. æneus*, with an elevated longitudinal line on each side, and a transverse abbreviated fovea posteriorly: elytra scarcely broader than the thorax, each with three elevated lines, and eight rows of impressions: body beneath, and femora at their base, clothed with a cinereous down: tarsi and antennæ ferruginous-brown, or rufescent.

Probably the *Li. obscurus* of Muller, and not sufficiently distinct from *El. æneus*.

Found near Norwich, and in other parts of Norfolk. “Clengre, Gloucestershire.”—*Rev. F. W. Hope*.

B. Thorax without elevated lateral lines.

Sp. 9. cupreus. **PLATE XIII. f. 6.**—*Ovalis, cupreo-niger, thorace lævi posticè utrinque fossulâ obsoletâ transversâ abbreviatâ impresso.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Li. cupreus. Müller.—*El. cupreus.* Steph. Catal. p. 56. No. 564.

Oval, coppery-black, shining, slightly pubescent: head finely punctulated: thorax very convex, rather opaque, brassy-copper, the disc without elevated lines, with an obsolete transverse impression on each side posteriorly: elytra oblong-ovate, rather broader at the base than the thorax, very convex, glossy æneous, deeply punctate-striated, the interstices finely punctulated, and the intermediate ones slightly elevated: body beneath, and legs at the base, clothed with a golden down; the latter pitchy-black, with the claws rufescent: antennæ also rufescent.

“Spitchweek.”—*Dr. Leach.* “In a paper-mill stream near Hatfield, in June.”—*Mr. Westwood.*

FAMILY XIII.—HELOPHORIDÆ, *Leach*.

Antennæ nine-jointed, rather abruptly perfoliate-clavate, the club serrated or subsolid: *mandibles* without teeth at their extremities: *maxillary palpi* very long: *body* oblong, rather depressed: *thorax* somewhat quadrate, nearly orbiculate, or slightly cordate-truncate: *tibiæ* a little spinous: *tarsi* filiform, not ciliated.

The Helophoridæ may rather be said to walk in the water and upon its surface than swim, the formation of the tarsi not permitting them to perform the latter operation; they generally inhabit ponds and ditches, and may be frequently observed walking on the muddy borders, or floating slowly on the surface upon their backs, and sometimes ascending upon aquatic plants, whence they occasionally take flight. In their first state they are carnivorous, but in their final they become herbivorous. The four following genera inhabit Britain.

<i>Palpi maxillares</i>	{	mediocres, articulo ultimo	{	<i>Thorax</i>	{	crassiore, ovali: elongatus: .	95. HYDROCHUS.
						transversus: .	96. HELOPHORUS.
						graciliore, acuto: .	97. OCHTHEBIUS.
						longissimi, articulo ultimo utrinque acuminato: .	98. HYDRANA.



GENUS XCV.—HYDROCHUS, *Germar.*

Palpi with the last joint oval, stout: *maxillary* much shorter than the antennæ: *clypeus* entire: *mandibles* rather stout, trigonate, obsoletely emarginate at the apex, acute: *mentum* rather large, subquadrate. *Antennæ* with the four terminal joints produced into a slightly compressed elongate club: *head* porrect: *eyes* very prominent: *thorax* elongate-quadrate: *body* nearly linear.

The prominent eyes and elongate body well distinguish this genus from *Helophorus*, and its stout, ovate, terminal joint of the palpi at once discriminate it from *Ochthebius* and *Hydræna*.

Sp. 1. *elongatus*. *Nigro-piceus, aut æneo-nigricans, elytris profundè punctato-striatis, interstitiis alternis carinato-elevatis.* (Long. corp. $1\frac{3}{4}$ —2 lin.)

El. *elongatus*. *Fabricius*.—Hy. *elongatus*. *Steph. Catal. p. 56. No. 565.*

Pitchy-black, sometimes slightly glossed with brassy: head porrect, rugose-punctate: thorax deeply punctated, with five impressed dots, three placed transversely and two oblong, towards the scutellum: elytra convex, dilated on the sides, deeply punctate striated, the interstices narrow, the second from the suture anteriorly, the third posteriorly, and the fourth, sixth, and eighth entirely, somewhat elevated: body pitchy-brown beneath: the abdomen rugose, foveolated: legs and antennæ pitchy.

Taken occasionally in April and May on the banks of ponds in Battersea-fields and on Wandsworth-common. “Spitchweek.”—*Dr. Leach*. “Netley, Salop, common.”—*Rev. F. W. Hope*.

Sp. 2. *crenatus*. *Æneo-aut viridi-niger, elytris crenato-striatis, pedibus rufopiceis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

El. *crenatus*. *Fabricius*.—Hy. *crenatus*. *Steph. Catal. p. 56. No. 566.*

Brassy or greenish-black, shining: head porrect, thickly punctulated, with several elevated longitudinal lines on the vertex: thorax thickly punctured, with three transverse impressions anteriorly, and one on each side posteriorly near the hinder angle: elytra slightly dilated on the sides, deeply crenate-striated, the intermediate interstices scarcely elevated: body beneath punctulated: legs and antennæ pitchy-red or testaceous, the latter with the tip of the club black.

Not uncommon on the muddy banks of ponds on Wandsworth-common, and on the borders of ditches on Ockham-heath, near Ripley, in April and May: also found near Hertford, and on the banks of the Orwell. “Netley, common.”—*Rev. F. W. Hope*.

Sp. 3. *brevis*. *Brevior, niger, thorace foveolato, antice latiori, elytris punctato-striatis, interstitiis alternis elevatis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{1}{2}$ lin.)

El. *brevis*. *Herbst*.—Hy. *brevis*. *Steph. Catal. p. 56. No. 567.*

Short, subovate, deep shining black: head broad, truncate: thorax broader an-



teriorly than at the base, roughly punctate, with five larger impressions, placed as in *Hy. elongatus*: elytra ovate, much broader than the thorax, the sides dilated, deeply punctate-striated, the alternate interstices elevated, the suture and margin also elevated: body black beneath; abdomen transversely rugose: legs and antennæ pitchy-black.

Less abundant than either of the foregoing species; rarely, if ever, taken near London: it, however, occurs in Norfolk, and near Bristol. "Netley, common."—*Rev. F. W. Hope*. "Whittlesea Mere, in July last."—*Mr. Weaver*.

GENUS XCVI.—HELOPHORUS, *Leach*.

Maxillary palpi shorter than the antennæ, the last joint thick and oval: *clypeus* entire: *mandibles* stout, subtrigonal, a little emarginate at the tip, which is somewhat produced and acute: *mentum* large, subquadrate. *Antennæ* with the two basal joints elongate; the third, fourth, and fifth shorter, distinct; the four following produced into an elongate-ovate club: *eyes* sessile: *thorax* transverse, longitudinally sulcate: *body* elliptic or subovate.

Helophorus, as restricted by Dr. Leach, differs from *Hydrochus* externally, by having the eyes sessile, the thorax transverse, and the body subovate or elliptical: from *Ochthebius* and *Hydrochus*, the thickened ovate terminal joint of the palpi and sulcated thorax form the more prominent distinctions.

A. Elytra without elevated lines.

Sp. 1. *aquaticus*. *Fusco-æneus, obscurus, thorace posticè angustiori lateribus sinuato, elytris griseis punctato-striatis*. (Long. corp. 2—3 lin.)

Silpha aquatica. *Linné*.—*He. aquaticus*. *Steph. Catal. p. 56. No. 568*.

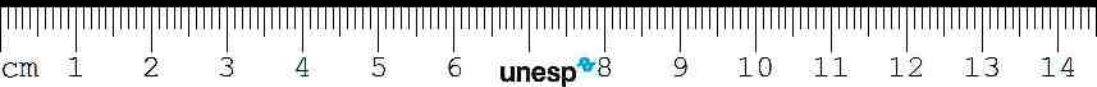
Dull brassy-brown: head punctulated: thorax slightly convex, the lateral margins sinuated, slightly dilated anteriorly, and narrowed posteriorly; above punctulated, with five longitudinal sulci; the middle one straight, the others more or less flexuous: elytra large, elongate, rather convex, deeply punctate-striated, the interstices flat, smooth; griseous, with scattered obsolete dusky spots, the alternate ones faintly elevated, and the second from the suture with an abbreviated, punctate, striola, as in many *Geodephaga*: body beneath fuscous, with a cinereous pubescence: legs flavescent: palpi and antennæ testaceous.

Common in every stagnant pond and ditch throughout the metropolitan district; and I believe in most parts of the country.

Sp. 2. *granularis*. *Fusco-æneus, subnitidus, thorace lateribus rotundato integro, elytris punctato-striatis, interstitiis convexis*. (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Buprestis granularis. *Linné*.—*He. granularis*. *Steph. Catal. p. 57. No. 569*.

Brown-brass, rather glossy: head æneous or dusky, obscurely punctulated:



thorax more or less coppery or brassy, the lateral margins rounded, the disc with five longitudinal sulci, as in the foregoing species: elytra oblong, slightly convex, the back dusky-æneous, the margins griseous, rather deeply punctate-striated, the interstices narrow, convex, without an abbreviated stria on the second, towards the scutellum: body beneath black, pubescent; legs, palpi, and antennæ pale testaceous, the latter dusky at the tip.

This also varies greatly in size: the elytra are sometimes griseous, clouded with dusky, and tinged with brassy, or nearly immaculate: the thorax also varies considerably in tint, being occasionally fuscous or dusky-brass.

Very abundant in stagnant waters, not only in the metropolitan district, but elsewhere.

Sp. 3. griseus. *Oblongior, thorace viridi-cupreo nitido, lateribus subrectis, elytris pallidis fusco-nebulosis.* (Long. corp. $1\frac{1}{4}$ — $1\frac{5}{8}$ lin.)

El. griseus. *Illiger.*—He. griseus. *Steph. Catal. p. 57. No. 570.*

Narrower and longer than the preceding; of a glossy cinereous: head shining cupreous green: thorax short, rather convex, the sides nearly straight and oblique, the disc with five sulci, generally of a shining green, with the sulci cupreous, and the anterior and lateral margins pale: elytra elongate, punctate-striated, the interstices flat, smooth, pale griseous, with several sprinkled fuscous spots: body beneath black: legs, palpi, and antennæ entirely pale-flavescent.

Far from uncommon in stagnant ponds and ditches throughout the metropolitan district. “Paddington.”—*Rev. F. W. Hope.*

Sp. 4. dorsalis. *PLATE XIV. f. 1.—Fuscus, thorace viridi, lateribus subrectis, elytris punctato-striatis, testaceis, nigro-nebulosis.* (Long. corp. $1\frac{1}{2}$ —2 lin.)

Hy. dorsalis. *Marshall.*—He. dorsalis. *Steph. Catal. p. 57. No. 571.*

Rather ovate, shining fuscous; head as in He. stagnalis: thorax green, with the sides nearly straight, the disc with five sulci, the second from the margin on either side curved outwardly, the rest nearly straight, the central one rather deepest: elytra rather broad, punctate-striated, the interstices slightly elevated, smooth; the disc testaceous, with a large common dusky-black patch, in which are two testaceous spots placed towards the apex: antennæ, palpi, and legs pale: body dusky beneath.

Not common: taken occasionally near London; also at Hertford, near Ripley; in Norfolk, Devonshire, &c.

Sp. 5. viridicollis. *Fusco-æneus, nitidus, thorace viridi-æneo, lateribus subrotundatis, elytris æneo-nigris, profundè punctato-striatis.* (Long. corp. $1\frac{3}{4}$ lin.)

He. viridicollis. *Kirby MSS.—Steph. Catal. p. 57. No. 572.*

Short and broad, shining brassy-brown: head finely punctulate: thorax subquadrate, with the sides somewhat rounded, the disc greenish-brass, with five irregular sulci: elytra deep immaculate brassy-black, rather deeply punctate-



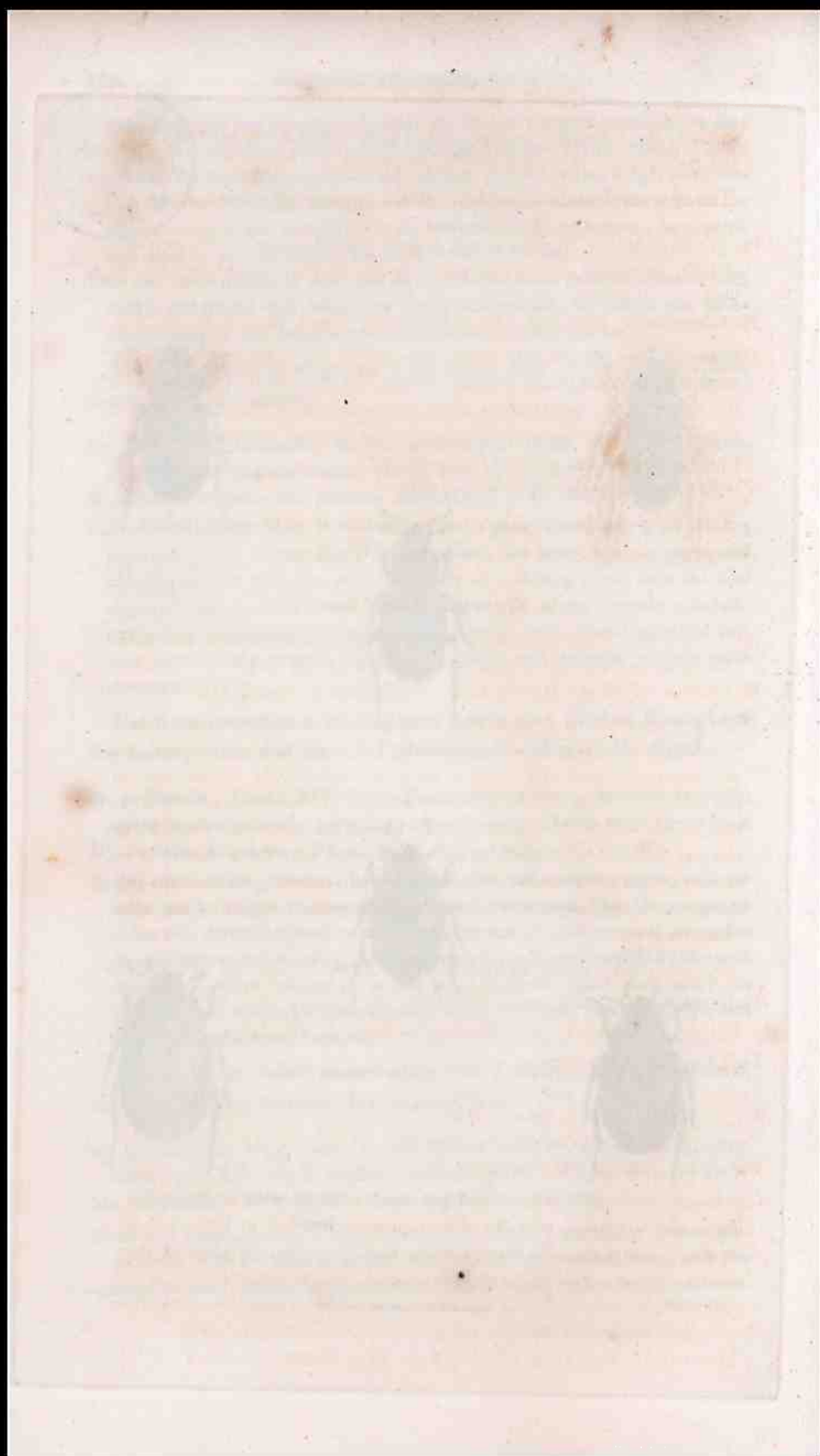


C. McCurtis del.

London, Pub. by J. E. Stephens, 1. Apr. 1829.

C. Weylandt sc.





striated, the interstices narrow, and a little elevated: body dusky black beneath; antennæ, legs, and palpi pale rufescent.

Taken near London, and in Suffolk, apparently not common.

Sp. 6. *tuberculatus*. *Niger obscurus, thorace obsolete sulcato, elytris punctato-striatis, interstitiis alternis tuberculis oblongis elevatis*. (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

El. *tuberculatus*. *Gyllenhal*.—He. *tuberculatus*. *Steph. Catal. p. 57. No. 573.*

Dull black: head punctulated: thorax sub-convex, the margins flat, broadest anteriorly, the sides nearly straight, oblique, the disc thickly punctate, with five rather obsolete sulci: elytra black, punctate-striated, the three alternate dorsal interstices with several oblong shining elevated tubercles: body and legs black: palpi and antennæ pitchy-brown.

The elytra sometimes pitchy-brown, or dusky.

The only specimens I have seen of this species were taken in the spring near "Southend."—*Rev. F. W. Hope*.

B. Elytra with elevated lines.

Sp. 7. *fennicus*. *Fusco-ferrugineus, elytris griseis punctato-striatis, interstitiis alternis carinato-elevatis lævibus*. (Long. corp. $2\frac{1}{4}$ — $2\frac{3}{4}$ lin.)

El. *fennicus*. *Paykul*.—He. *fennicus*. *Steph. Catal. p. 57. No. 574.*

Dusky-ferruginous: head with the forehead obsoletely impressed: thorax broad, rather convex, broadest anteriorly, the lateral margins sinuated, the disc rugose-punctated with five sulci, the central one straight, the rest more or less flexuous: elytra somewhat convex, griseous, punctate-striated, the alternate interstices elevated, smooth; a little beyond the middle are some oblong elevated dusky or black spots on the carinæ; and near the scutellum is an abbreviated punctate striola: body beneath pitchy-brown; the abdomen pale ferruginous; legs, palpi, and antennæ pale testaceous; the tip of the latter rather obscure.

Not common; taken occasionally in damp banks and hedges in Battersea-fields; also near Hertford, at Dover, and in Norfolk. "Ealing, Middlesex, and Netley."—*Rev. F. W. Hope*. "Leith Hill."—*Mr. Waterhouse*.

Sp. 8. *nubilus*. *Ovatus, griseo-testaceus, elytris punctato-striatis, nigro-nubiosis, interstitiis alternis elevatis, crenulatis*. (Long. corp. $1\frac{3}{4}$ —2 lin.)

El. *nubilus*. *Olivier*.—He. *nubilus*. *Steph. Catal. p. 57. No. 575.*

Griseous or testaceous-brown: head punctate; forehead with an impression: thorax short, convex, with the sides depressed, broadest in front, and bisinuated; above with the disc punctate, with five sulci: elytra moderately convex, griseous, with scattered brown clouds, punctate-striated, the alternate interstices elevated, and the carinulæ obsoletely crenulated: body fuscous: legs testaceous: antennæ and palpi pale, with the apex dusky.

MANDIBULATA. VOL. II. 1ST JANUARY, 1829.

Found in banks and damp sandy places not very abundantly. "Strand-on-the-Green."—*Rev. F. W. Hope*. "Copenhagen-fields."—*Mr. Ingpen*. "Glanville's Wootton, and Hurne."—*J. C. Dale, Esq.*

GENUS XCVII.—OCHTHEBIUS, *Leach*.

Maxillary palpi shorter than the antennæ, the terminal joint small, gracile, subulated; the preceding thickened, with the apex tumid. *Antennæ* with the basal joint long, slightly bent; the second short, subglobose, followed by an arcuated, slender, internally acute, process; the club elongate, six-jointed, the apical joints rather stoutest, the terminal the largest and ovate: *head* large; *eyes* slightly prominent; *thorax* short, with the sides more or less dilated: *body* elliptic.

The brevity of the palpi at once distinguishes this genus from the following, as their slender, acute, terminal joint does from the two preceding, from which the dilated margins of the thorax and the greater convexity of the elytra also remove it:—the want of longitudinal sulci on the thorax discriminates it from *Helophorus*, and the less prominent eyes and dilated thorax from *Hydrochus*.

A. Elytra punctate-striated.

Sp. 1. *marinus*. *Viridi-æneus nitidus, thorace transversim impresso, elytris obscurioribus punctato-striatis, pedibus pallidis.* (Long. corp. $\frac{3}{4}$ —1 lin.)

El. *marinus*. *Paykul.*—Oc. *marinus*. *Steph. Catal. p. 57. No. 576.*

Glossy brassy-green: head obsoletely punctulated, with several larger punctures on the crown: thorax very finely punctulated, with two transverse arcuated impressions on the disc, which is rather elevated, and a bent obsolete fovea on each side; the lateral margins on each side behind and the anterior one have a kind of white membranous appendage: the elytra are punctate-striated, slightly tinged with greenish-brass, with the apex paler: body black: legs and antennæ pale.

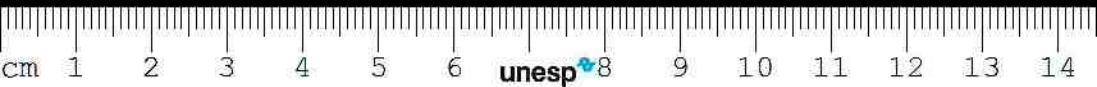
Var. β . With the thorax pitchy-black.

Inhabits brackish waters beneath aquatic plants. "Pools of salt water on the banks of the Humber."—*W. Spence, Esq.* "South-end."—*Rev. F. W. Hope*.

Sp. 2. *dilatatus*. *Nigro-æneus, thoracis lateribus valde dilatatis, disco canaliculato postice subbifoveolato, pedibus piceis.* (Long. corp. $\frac{7}{8}$ —1 $\frac{1}{4}$ lin.)

Oc. *dilatatus*. *Leach MSS.*—*Steph. Catal. p. 57. No. 577.*

Closely allied to the last, but differs in having the sides of the thorax more dilated; in colour, &c. Dusky-brass: head obscurely punctured, with some larger impressions on the crown: thorax with the sides considerably dilated, the disc with a longitudinal impressed line, terminating posteriorly in two



rather obsolete impressions placed transversely, the posterior angles with a curved depression on each: elytra rather convex, punctate-striated, the striae regular and rather deep: body dusky beneath: legs pitchy: antennæ and palpi pale.

Taken in Devonshire and near Swansea; also in the neighbourhood of London, and in Norfolk. "Spitchweek and Woodland, Devonshire."—*Dr. Leach*. "Southend."—*Rev. F. W. Hope*. "Parley-heath."—*J. C. Dale, Esq.*

Sp. 3. pygmæus. *Fusco-æneus, thorace unisulcato, elytris punctato-striatis, apice pedibusque rufo-piceis.* (Long. corp. $\frac{7}{8}$ — $1\frac{1}{4}$ lin.)

El. pygmæus. *Fabricius*.—Oc. pygmæus. *Steph. Catal. p. 57. No. 578.*

Head punctate, dusky-brass, with a transverse impressed line, and two foveæ on the crown: thorax truncated anteriorly, with the sides rounded, above brassy-brown, slightly convex, deeply punctured, with an abbreviated channel in the middle, and an impressed bent fovea on each side: elytra ovate, slightly convex, brassy-brown, with the apex pitchy-red; the disc regularly but finely punctate-striated; body pitchy-black: legs rusty-red: antennæ and palpi pale, with the tips dusky.

Not uncommon in stagnant waters in the neighbourhood of London. "Bottisham."—*Rev. L. Jenyns*.

Sp. 4. impressus. *Niger, thoracis lateribus utrinque foveâ magna impressâ, pedibus testaceis.* (Long. corp. $\frac{3}{4}$ — $1\frac{1}{2}$ lin.)

Hy. impressus. *Marsham*.—Och. impressus. *Steph. Catal. p. 58. No. 579.*

Although this (so far as the original Marshamian specimens elucidate) appears a distinct species from the foregoing, and may be distinguished by its colour, as well as the magnitude of the lateral foveæ on the thorax, it is nevertheless possible that it may prove to be a mere variety: prevailing colour deep shining black, sometimes obscurely glossed with æneous: head obsoletely punctate; crown with larger impressions: thorax with the sides slightly dilated, the disc a little brassy and glossy, with a longitudinal channel in the middle, and a deep fovea on each side near the margin: elytra deeply punctate-striated: legs testaceous: antennæ and palpi pale.

Not unfrequent in waters and ponds in the vicinity of London. "Southend."—*Rev. F. W. Hope*.

Sp. 5. bicolon. *Nigro-æneus, subnitidus, thoracis lateribus utrinque bifoveolato, medio canaliculato, antennæ pedibusque pallide testaceis.* (Long. corp. $\frac{7}{8}$ —1 lin.)

Hy. bicolon. *Kirby MSS.*—Oc. bicolon. *Steph. Catal. p. 58. No. 580.*

Slightly glossy æneous-black: head very obscurely punctured anteriorly, the crown with two or three foveæ: thorax with a rather deep central channel and two impressed foveæ on each side between it and the margins, the latter depressed, slightly rugose and reddish: elytra rather convex, deeply and some-

what coarsely punctate-striated, the striae regular: the body black beneath: legs and antennae pale testaceous, the latter palest.

I obtained a pair of this insect from the Marshamian cabinet named as above.

Also found near London, and I believe in Suffolk and Norfolk. I have one specimen from the west of England. "Habitat in Scotia."—*Germer*.

Sp. 6. *rufimarginatus*. *Brevis, latus, piceo-niger, thoracis lateribus pedibusque rufis, elytris profunde crenato-striatis*. (Long. corp. $\frac{7}{8}$ lin.)

Oc. *rufimarginatus mihi*. *Steph. Catal. p. 58. No. 581.*

The comparative brevity and superior width of this species sufficiently point out its distinction: it is of a pitchy-black: head glossy, obscurely punctured, with some larger impressions on the crown: thorax rather convex, the lateral margins broadly rufous; the disc with an abbreviated longitudinal channel and an obsolete transverse arcuated impression on each side towards the base; elytra slightly glossy-black, rather pitchy or rufescent toward the apex, moderately convex, and somewhat deeply crenate-striated, the striae reaching to the apex: legs rufous: antennae and palpi rufescent, with the tips dusky.

My specimens occurred near London. "Netley."—*Rev. F. W. Hope*.

Sp. 7. *nanus*. *Niger, obscurus, thorace subfoveolato, elytris tenuè punctato-striatis, pedibus rufo-testaceis*. (Long. corp. $\frac{1}{2}$ — $\frac{3}{4}$ lin.)

Oc. *nanus mihi*. *Catal. Steph. p. 56. No. 582.*

Very minute: deep obscure black; the head and thorax slightly glossy, the former nearly smooth anteriorly, foveolated on the crown; the latter with a slight dorsal channel and two shallow foveae on each side between it and the lateral margins: elytra faintly punctate-striated, the punctures somewhat remote: legs, antennae, and palpi testaceous, the former with a rufous tinge.

The locality of this minute insect I do not remember, but it was not found in the metropolitan district. "Southend."—*Rev. F. W. Hope*.

Sp. 8. *ætatus*. *Splendide æneo-nitens, thorace, dorso canaliculato, disco foveolato, elytris obsolete punctato-striatis, pedibus testaceis*. (Long. corp. $\frac{3}{4}$ lin.)

Oc. *ætatus mihi*. *Steph. Catal. p. 58. No. 583.*

Of a brilliant glossy brass, obscurely tinged with cupreous: head smooth anteriorly, with the crown somewhat rugose, and foveolated: thorax smooth, glossy, the disc with a dorsal channel, two foveae on each side parallel with the same, and one placed behind the hinder fovea and the lateral margin, which is considerably depressed and has another fovea placed anteriorly: elytra very glossy, smooth, obsolete punctate-striated, slightly pubescent: legs testaceous: antennae and palpi pale, with the tips dusky.

Taken near London, and also in Glamorganshire.



B. Elytra punctate, not striated.

Sp. 9. punctatus. PLATE XIV. f. 2. *Subelongatus, aneo-nitens pubescens, thoracis disco sulco dorsali foveisque plurimis impressis, elytris punctatis, haud striatis.* (Long. corp. $1\frac{1}{2}$ lin.)

Oc. punctatus mihi. *Steph. Catal. p. 58. No. 584.*

The largest and most remarkable species of the genus; somewhat elongate, glossy-brass: head with an elevation on the front, the crown with two deep foveæ: thorax with a central channel and four impressions on each side, the two lateral ones united together by an arched impressed line: elytra slightly glossy, somewhat pubescent, thickly and minutely punctured throughout: legs pitchy-testaceous, with the tarsi dusky: antennæ and palpi testaceous, the apex of the latter dusky.

I have little doubt that this will form the type of a new genus, as the form of terminal joint of the palpi appears to differ from that of the true *Ochthebii*; and the antennæ are somewhat elongate. It may be the *Och. exsculptus*, *Degean.*

This singular insect, of which I have seen but two examples, was found either near Bristol or in Glamorganshire. "Netley."—*Rev. F. W. Hope.*

GENUS XCVIII.—HYDRÆNA, *Kugellan.*

Maxillary palpi about three times as long as the antennæ; the terminal joint thickened in the middle, attenuated at each end, the basal short, straight, the second very long, bent, slender, the apex rather thickened, the following about half the length of the second, obscurely thickened at the tip. *Antennæ* with the first joint elongate, bent, incrassated at the apex, the following short, ovate, succeeded by a slender subulated process, to which the club, which consists of six joints, the terminal largest, is attached: *head* large, porrect: *eyes* small, immersed: *thorax* subquadrate: *body* oblong: *legs* rather elongate; *tarsi* long and slender.

The extraordinary length of the maxillary palpi at once distinguishes this genus from the other Helophoridæ. It is most probable that we have more than three species in England, as there are several known on the continent; and among the specimens which I possess there is considerable diversity of appearance, though I have not ventured to consider them distinct, from not being thoroughly acquainted with the actual localities of the individuals.

Sp. 1. riparia. *Elongata, piceo- aut brunneo-nigra, elytris creberrimè punctato-striatis, pedibus pallide rufescentibus.* (Long. corp. $1-1\frac{1}{4}$ lin.)

Hy. riparia. *Kugellan. Steph. Catal. p. 58. No. 585.*

Proportionately more elongate than the other species of the genus, and of a superior bulk: head black, slightly convex, finely punctulate anteriorly, rather more deeply on the crown: thorax slightly convex; the sides a little

dilated, somewhat unequal; the disc thinly but finely punctured: elytra slightly convex, piceous or brownish-black, thickly punctate-striated: legs pale rufescent; antennæ and palpi paler, with the tips dusky.

The size and colour vary considerably.

I have occasionally taken this insect in ponds in the neighbourhood of London, especially on Hampstead-heath. "Netley, Salop, and Tenbury."—*Rev. F. W. Hope*. "Glanville's Wootton, and Parley-heath."—*J. C. Dale, Esq.*

Sp. 2. pusilla. PLATE XIV. f. 3. *Subovata, saturate nigra nitida, elytris obsolete punctato-striatis, pedibus rufis.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Hy. pusilla mihi. *Steph. Catal. p. 58. No. 586.*

Broader and shorter than the preceding, of a darker colour, &c. Subovate; deep glossy black: head obscurely punctured, the crown slightly rugose: thorax very finely but thickly punctured, with a slight fovea near each posterior angle: elytra rather obsoletely but thickly punctate-striated: legs rufous: antennæ and palpi rufescent, dusky at the apex.

This is probably the *Hydræna nigrita* of Muller. See Germar *Coleopterorum Species Novæ*, &c. p. 93.

Taken near London. "Netley and Tenbury."—*Rev. F. W. Hope*. "Midgley-moor near Halifax."—*Mr. Gibson*. "River Cawdor near Carlisle, and in a marsh near Ashburton, Devonshire."—*Dr. Leach*.

Sp. 3. minutissima. *Ovata, nigro-picea, thorace canaliculato, elytris lævibus, antennis pedibusque pallidis.* (Long. corp. $\frac{1}{2}$ lin.)

El. minutissima? *Gyllenhal?*—Hy. minutissima. *Steph. Catal. p. 85. No. 587.*

Ovate pitchy-black: head glossy, obtuse; eyes rather large, globose: thorax black, shining, convex, behind with a slight channel in the middle, and a minute fovea on each side: elytra ovate, convex, smooth, glossy pitchy-black, the apex paler: body black: legs, antennæ, and palpi pale.

I have a single indigenous species agreeing with the above description.

I am not aware of the exact locality of this insect.

FAMILY XIV.—HYDROPHILIDÆ, *Leach*.

Antennæ generally nine—rarely six-jointed, perfoliate-clavate, the club distinctly cleft. *Mandibles* bidentate at their extremities; *maxillary* palpi very long, usually filiform; *body* oval or somewhat rounded, frequently nearly globose: *thorax* short, transverse: *tibiæ* slightly spinose; *tarsi* five-jointed, filiform, the posterior sometimes ciliated, the basal joint minute, the second longer than the rest.

The bidentate mandibles enable us with facility to discriminate



this family from the foregoing : the species of which it is composed are more truly aquatic than the Helophoridæ, and the typical species swim with dexterity by means of their paddle-like tarsi : they prey upon small aquatic mollusca and insects, in their first and final states ; but their voracity is far inferior to that of the Hydradeplaga.

The British genera, which have received no accession to their numbers since they were published by Dr. Leach, may be thus known :

Clypeus	{ integer ; Sternum	{ simplex ; Elytra apice	{ truncata : 99. LIMNEBIUS.	
			{ integra ; sessiles : . . . 104. HYDROBIUS.	
			{ Oculi	
			{ prominuli : 103. Berosus.	
	{ spiniforme ; articulo ultimo	{ Antennæ	{ acuminato : 100. HYDROUS.	
			{ obtuso : 101. HYDROPHILUS.	
	emarginatus :			102. SPERCHEUS.

GENUS XCIX.—LIMNEBIUS, *Leach*.

Maxillary palpi elongate, the basal joint minute, the rest of nearly equal length, the second and third somewhat thickened at the apex, the terminal rather slender, slightly attenuated at each extremity. *Antennæ* short, slender at the base, with an elongate six-jointed club : *head* ovate, moderate : *eyes* moderate : *thorax* short, transverse, slightly convex, dilated at the sides : *body* somewhat depressed ; *elytra* rather oblong, truncate at the apex : *scutellum* broad ; *legs* moderate : *tibiæ* slightly spinous : *posterior tarsi* ciliated.

The truncate elytra and inferior bulk sufficiently point out this genus at first sight ; but other very evident characters of discrimination may be remarked, such as the depressed body, which distinguishes it from Hydrobius and Berosus, and the simple sternum, by which it is known from Hydroüs and Hydrophilus ; and the integrity of the clypeus, which separates it from Spercheus. The species have been much neglected, but from the examination of a considerable number of specimens, the following appear to be distinct.

Sp. 1. ater. PLATE XIV. f. 4. *Atropiceus, nitidissimus, thoracis lateribus elytrorumque marginibus dilutioribus, pedibus piceis, tibiis tarsisque pallidioribus.* (Long. corp. $1-1\frac{3}{4}$ lin.)

Li. ater *mih.* Steph. Catal. p. 58. No. 588.

Ovate obtuse ; of a deep glossy pitchy-black, with the lateral margins of the

thorax and the edges of the elytra rufescent: the femora pitchy, with the tibiæ and tarsi paler.

It varies in being of a paler or pitchy hue above; or sometimes approaching to castaneous.

Distinguished by its superior size, and the obtuseness of its posterior outline, as well as by the general intensity of its colour and glossiness.

Found near London; in Devonshire, Glamorganshire, Norfolk, and "Glanville's Wootton."—*J. C. Dale, Esq.* "Halifax."—*Mr. Gibson.*

Sp. 2. *affinis. Oblongo-ovatus, posticè subattenuatus, nigro nitidus, thoracis elytrorumque marginibus concoloribus, femoribus nigris, tibiis tarsisque rufescentibus.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Li. *affinis. mihi.* *Steph. Catal. p. 58. No. 589.*

Oblong-ovate, acuminated behind; glossy black, with the margins of the thorax and of the elytra concolorous, the apex of the latter rounded: femora black, tibiæ and tarsi rufescent.

The attenuated posterior outline and deep concolorous margin to the thorax and elytra sufficiently distinguish this species from the foregoing.

My specimens were captured in the metropolitan district.

Sp. 3. *truncatellus. Brevis, ovatus, posticè obtusus, lævissimus, ater, thoracis elytrorumque marginibus concoloribus, pedibus piceis.* (Long. corp. 1 — $1\frac{1}{4}$ lin.)

Hy. *truncatellus. Fabricius.*—Li. *truncatellus. Steph. Catal. p. 58. No. 590.*

Short, ovate, posteriorly obtuse, very smooth, deep black, with the lateral margins of the thorax and elytra concolorous; the legs pitchy; the palpi slightly rufescent.

The inferior size and brevity of this species, exclusively of the dissimilarity in form, sufficiently discriminate it from Li. *affinis.*

Perhaps the most abundant species of this genus; occurring in plenty in some ponds near London, and not unfrequent in Norfolk and Suffolk, judging from the number of specimens I have seen from thence. "Netley."—*Rev. F. W. Hope.*

Sp. 4. *marginalis. Brevis, ovatus, niger, nitidus, thoracis angulis posticis elytrorumque marginibus piceo-testaceis, pedibus piceis.* (Long. corp. 1 lin.)

Li. *marginalis mihi.* *Steph. Catal. p. 58. No. 591.*

Short, ovate, glossy black, with the posterior angles of the thorax and the lateral margins of the elytra pitchy-testaceous; the legs pitchy.

The apex of the elytra is sometimes slightly rufescent.

Smaller and somewhat more obtuse and broader than the last, from which it is also distinguished by the coloured margin to the thorax.

Found near London and in Devonshire. "Netley."—*Rev. F. W. Hope.*



Sp. 5. *nigricans*. *Oblongo-ovatus, obtusus, niger, levis, nitidiusculus, pedibus piceis*. (Long. corp. $\frac{3}{8}$ — $1\frac{1}{8}$ lin.)

Dermestes nigricans. *Marsham*.—*Li. nigricans*. *Steph. Catal. p. 58. No. 592.*

Oblong-ovate, obtuse, smooth, slightly glossy-black, the margins of the thorax and of the elytra concolorous; the legs and antennæ pitchy.

It varies in being of a pitchy testaceous hue, with the antennæ and legs paler: probably immature.

Not an uncommon species near London; and I believe in other parts. "Common near Kimpton."—*Rev. G. T. Rudā*. "Bottisham."—*Rev. L. Jenyns*. "Glanville's Wootton."—*J. C. Dale, Esq.*

Sp. 6. *lutosus*. *Oblongo-ovatus, nigro-fuscous, elytris obsoletissime punctato-striatis, pedibus piceis*. (Long. corp. $\frac{3}{4}$ lin.)

Hy. lutosus. *Marsham*.—*Li. lutosus*. *Steph. Catal. p. 58. No. 593.*

Oblong-ovate, dusky-black, or brown, with elytra very obsoletely punctate-striated, the legs piceous: the thorax rugose, with transverse elevated flexuous lines.

The obsoletely punctate-striated elytra well characterizes this species; as well as the rugosity of the thorax.

This species I obtained from the Marshamian Cabinet. I am not aware of its locality.

Sp. 7. *mollis*. *Ater, nitidus, thorace elytris pedibusque fusco-testaceis*. (Long. corp. $\frac{1}{2}$ lin.)

Hy. mollis. *Marsham*.—*Steph. Catal. p. 59. No. 594.*

Ovate, slightly acuminate, rather convex, black, shining, with the thorax, elytra, and legs testaceous brown, the margins of the former palest.

The black head and abdomen of this minute species, as well as its inferior size, distinguish it from all the foregoing.

Li. mollis is not uncommonly taken in the ponds about London. "Bottisham."—*Rev. L. Jenyns*.

Sp. 8. *picus*. *Ovatus, acuminatus, subconvexus, piceus nitidus, thoracis marginibus dilutioribus, pedibus pallide testaceis*. (Long. corp. $\frac{1}{2}$ lin.)

Hy. picinus. *Marsham*.—*Li. minutus*. *Steph. Catal. p. 59. No. 595.*

Ovate, acuminate, slightly convex, shining piceous, the margins of the thorax rather paler, the legs pale testaceous, or rufescent.

This is known by its small size, superior convexity, and the acumination of its posterior extremity.

Of this insect I have examined but one example, which I procured from the Marshamian Cabinet.



Sp. 9. nitidus. *Ovatus, depressus, ater nitidus, margine thoracis pedibusque pallidè rufis.* (Long. corp. $\frac{1}{2}$ — $\frac{5}{4}$ lin.)

Hy. nitidus. *Marsham.*—*Li. nitidus.* *Steph. Catal. p. 59. No. 596.*

Ovate, depressed, glossy-black, with the margin of the thorax and the legs pale rufous, or piceous.

Distinguished by its depressed form and minute bulk from all the foregoing.

Of *Li. nitidus* I have also only seen my own pair, which were obtained from the same source as the preceding.

GENUS C.—HYDROÛS, *Linne MSS.*

Maxillary palpi very long, the basal joint minute, the second very long, robust, subclavate, the third shorter and more slender, the terminal about half the length of the third, slenderer and elongate-ovate: *labrum* transverse-oval, entire: *mandibles* large, emarginate at the apex, with several strong bifid teeth in their inner edges: *Antennæ* nine-jointed*, the basal joint robust, bent, attenuated at the base, the next oblong, the three following transverse, the remainder forming the club, of which the terminal joint is acuminate; *head* broad, obtuse: *eyes* not very large: *elytra* posteriorly attenuated: *sternum* terminating in an acute spine, reaching considerably beyond the insertion of the *posterior legs*; four *posterior tarsi* compressed, ciliated on the inner margin, and formed for swimming; *claws* bifid; and two *anterior tarsi* of the male with a triangular dilatation, and two robust simple unequal claws.

Hydroûs is readily known by the integrity of the labrum, bifid posterior claws, attenuated elytra, and superior bulk; as well as from the magnitude and internal denticulation of its mandibles; and, like the *Dytici*, the males are remarkable for the great size of the terminal joint of the anterior tarsi.

Sp. 1. piceus. *Olivaceo-niger, nitidus, elytris octo striatis, interstitiis intermediis lineâ punctorum impressorum, antennis rufescentibus.* (Long. corp. 1 unc. 4—6 lin.)

Hy. piceus. *Linne.*—*Hy. piceus.* *Steph. Catal. p. 59. No. 597.*—*Curtis, v. pl. 239.*

With the exception of *Lucanus Cervus* and *Melolontha Fullo*, this is the largest of the indigenous Coleoptera: of a glossy olivaceous-black, the margins of the elytra purpurascens or greenish: head smooth, with a deep punctate impression above the eyes and on the forehead; thorax smooth, with some punctures on the lateral margins, and two more or less evident punctate foveæ

* "Olivier remarks that the antennæ of *Hydrous piceus* are in fact eleven-jointed, the eighth and tenth joints being very minute, their place being marked out by the distances which intervene between what are commonly considered the second and third, and the third and last joints of the clava."—*Mac Leay.*



on the disc towards the anterior margin: elytra large, elongate, each with eight simple striæ, the alternate interstices with a continuous series of irregularly-impressed dots, which, with the striæ, are deepest towards the apex, and somewhat evanescent anteriorly: breast clothed with a yellowish pubescence; abdomen deep black, with luteous marginal spots; legs pitchy, with the tarsi rufescent towards the apex. Both sexes vary much in colour; the female is rather broadest.

The larva dusky, with smooth chestnut-coloured head, slender legs, and attenuated tail: it feeds voraciously on mollusca, and changes in June beneath dung, making a deep hole for the purpose: about August the imago appears: the female deposits her eggs symmetrically, in a nest composed of a gummy matter, which she spins out of her abdomen, in which receptacle they float about till they are hatched.

Not uncommon in many situations in the vicinity of the metropolis; in a ditch by the junction of the Croydon and Surrey canals, in brick-fields near Chelsea, ponds near Hampstead, Epping-forest, &c. "River Cam, Bottisham-fen, &c."—*Rev. L. Jenyns*. "Common in ponds in Copenhagen-fields."—*Mr. Inghen*. "Whittlesea-mere, June."—*Messrs. Chant and Bentley*. "Yaxley-mere."—*J. G. Children, Esq.* "Glanville's Wootton."—*J. C. Dale, Esq.* "Ealing and Paddington."—*Rev. F. W. Hope*.

GENUS CI.—HYDROPHILUS *Auctorum*.

Maxillary palpi nearly as in *Hydrous*, but less robust, and the terminal joint subfusiform: *labrum* transverse, emarginate: *mandibles* ciliated on the inner edge, acute and bifid at the apex. *Antennæ* nine-jointed; basal joint robust, abruptly bent, and attenuated near its origin; second elongate, and with the three following, which are transverse, rather slender; the remainder forming the club, the terminal joint of which is somewhat obtuse, and obliquely truncate: *head* ovate; *eyes* small, reniform: *elytra* convex, broad posteriorly: *sternum* terminating in a slightly acute spine, which scarcely reaches beyond the insertion of the posterior legs: *legs* not very stout; the four *posterior tarsi* compressed, ciliated on each side, and formed for swimming; *anterior* simple in each sex: *claws* dentate at the base, greatly incurved.

The genus *Hydrophilus* differs from *Hydroüs* by having the *labrum* emarginate, the *mandibles* ciliated internally, without prominent teeth, the *antennæ* more obtuse at the apex, and the body obtuse and somewhat dilated behind: from *Spercheus* and the following genera the acuminate *sternum* distinguishes it. The larva somewhat resembles that of *Gyrinus*.

Sp. 1. *caraboides*. *Niger nitidus, elytris striis quinque punctatis, lateralibus subconfluentibus*. (Long. corp. 8—10. lin.)



Hy. caraboides. Linné.—*Hy. caraboides.* Curtis, iv. pl. 159. *Steph. Catal.* p. 59. No. 598.

Entirely black or of a glossy violet, sometimes slightly greenish: head with a waved series of punctures on each side, and a deep fovea near the eyes: thorax with scattered punctures on the sides, and two oblique punctate foveæ on the disc anteriorly: elytra elongate-convex, with five punctate striæ, the two lateral ones somewhat confluent; between the striæ are two very obsolete impressed lines: body slightly pubescent beneath; legs black; tibiæ and tarsi piceous: antennæ and palpi ferruginous; the club of the latter black.

Var. β . Violaceous-brown, the elytra obsoletely sulcate; legs pale ochraceous. Apparently immature.

Larva pale ochraceous-brown, with the anterior segments darker; it has seven fascicles of hair down each side; and the caudal segment has two filiform processes:—the pupa is slightly hairy anteriorly, and the apex of the abdomen has a large and powerful bifid process.

Not uncommon during the greatest part of the year in the ponds and ditches round London, but rare in the north of England. "Bottisham, common."—*Rev. L. Jenyns.* "Whittlesea-mere."—*J. C. Dale, Esq.* "Earl's Court, in the canal, abundantly."—*Mr. G. Waterhouse.* "Epping."—*Mr. H. Doubleday.*

GENUS CII.—SPERCHEUS, *Fabricius.*

Maxillary palpi as long again as the labial, the terminal joint elongate-ovate, attenuated at the base, acute at the apex; *labrum* transverse-quadrate: *mandibles* much bent externally, the apex acute, with acute divaricating teeth: *maxillæ* with the external lobe palpiform, slender, subulated, the apex setose. *Antennæ* apparently six-jointed, the basal joint longest, conic-cylindric; the remainder forming a cylindric club: *head* large: *eyes* prominent: *clypeus* emarginate: *body* ovate, gibbous: *sternum* simple: *tibiæ* angulated, smooth: *tarsi* with the four basal joints short, the terminal large, obconic; with two short equal *claws*.

The convex body and emarginate clypeus at once distinguish *Spercheus* from the other *Hydrophilidæ*; but the more essential characters of the external palpiform lobe of the maxillæ, and apparently six-jointed antennæ, may be remarked. The species inhabit stagnant waters, adhering to the roots of plants.

Sp. 1. *emarginatus.* *Suprà pedibusque nigricanti-ferrugineis, clytris lineis elevatis subobsoletis, corpore infra nigricante.* (Long. corp. 3—3½ lin.)

Sp. *emarginatus.* *Fabricius.*—*Steph. Catal.* p. 59. No. 599.

Obscurely glossy-fuscous: head flat, unequal, punctate, dusky-black: eyes black: thorax slightly convex, rugose-punctate, the disc pitchy-brown, the lateral margins pale: scutellum elongate-acuminate: elytra gibbous, coarsely and

rather irregularly punctate-striate; the alternate interstices more elevated, especially posteriorly, ashy-brown, with scattered dusky spots, especially towards the suture: body beneath flat, black; legs dusky-ferruginous, or pitchy, with the tibiæ and tarsi paler; palpi and antennæ pale-testaceous; the club of the latter fuscous.

*Hy. verrucosus** of Marsham is a mere variety of this species, being obscure above, and having the sides of the abdomen slightly verrucose.

This rare insect has not often been captured in England; specimens have however occurred at Windsor and near York; and Dr. Leach once picked up a fragment of one in Kensington-gardens. "One pair taken in July, 1824, in Yaxley-fen."—*Mr. Chant.*

GENUS CIII.—BEROSUS, *German.*

Maxillary palpi thrice as long as the labial, basal joint very minute, second elongate, clavate, third about half the length of the second, robust, attenuated at the base, terminal nearly as long as the second, subfusiform, truncate: *labrum* transverse, anterior margin rounded, entire, mandibles tridentate at the apex. *Antennæ* apparently eight-jointed, the basal joint stout, elongate, clavate, second slender, about half the length of the preceding, attenuated at the apex, the three following small, the remainder forming the club, of which the terminal joint is large and subglobose: *head* nutant: *eyes* slightly prominent: *clypeus* entire: *thorax* convex: *elytra* globose, broader than the thorax, the apex entire: *sternum* simple: *tibiæ* slightly spinose: *posterior tarsi* natatorious, ciliated.

From the preceding genus *Berosus* differs in having the clypeus entire, the external lobe of the maxillæ not palpiform, the antennæ distinctly more than six-jointed, and the thorax more globose and narrower than the elytra; and from *Hydrobius* by the prominence of its eyes, the different proportions of the maxillary palpi, the comparative smallness of the thorax to the elytra, and the obtuse terminal joint of the antennæ.

Sp. 1. *luridus*. *Ob longo-ovatus, griseo-flavescens punctulatus, capite maculâque thoracis medio subquadrata anticè attenuatâ æneo-viridibus.* (Long. corp. $2\frac{1}{4}$ — $2\frac{3}{4}$ lin.)

Hy. luridus. *Linné.*—*Mart. C. pl.* 33. f. 10.—*Be. luridus.* *Steph. Catal.* p. 59. No. 600.

Oblong-ovate: griseous-yellow; head thickly and finely punctate, of a brilliant brassy-green: thorax also thickly punctured, with a subquadrate anteriorly narrowed brassy-green spot on the disc: elytra crenate-striated, the interstices finely and regularly punctulated, the striæ with minute fuscous spots, and several scattered larger spots on the disc, which are variously placed in



different specimens: legs pale, with the base of the four posterior femora and the tips of the tibiæ and tarsi dusky, or black.

Far from uncommon in the metropolitan district; also taken in Norfolk, Suffolk, Devonshire, and near Swansea. "Ponds near Cambridge."—*Rev. L. Jenyns*. "Southend."—*Rev. F. W. Hope*. "Wandsworth-common, abundantly."—*Mr. Ingpen*.

Sp. 2. æriceps. *Ovatus, ochraceo-flavescens, punctulatus, capite vittâque didymâ thoracis cupreo- aut nigro-æneis*. (Long. corp. $2\frac{1}{2}$ —3 lin.)

Hy. æriceps. *Spence MSS.*—Be. æriceps. *Steph. Catal. p. 69. No. 601.*—*Curtis, v. pl. 240. ♀.*

Larger and more globose than the foregoing, of a more ochraceous hue, and the punctures on the head and thorax more remote and shallow: head cupreous or brassy-black, sometimes tinged with cupreous; thorax light ochraceous, with two longitudinal or parallel lines on the disc, divided by a ferruginous streak, and slightly rounded externally: elytra very globose, crenate-striated, the striæ more or less fuscous, and the interstices punctured, the intermediate ones more deeply so, and more or less spotted in different individuals with dusky or black: legs pale, the four posterior dusky at the base.

Var. β. With the spots on the thorax united.

Less frequent than the foregoing, but far from uncommon round London: also found in Norfolk and Devonshire. "Wandsworth-common, abundantly."—*Mr. Ingpen*. "Southend."—*Rev. F. W. Hope*. "Bottisham."—*Rev. L. Jenyns*.

Sp. 3. globosus. PLATE XIV. f. 5. *Sub-oblongo-ovatus, griseo-flavescens, vage punctatus, capite maculâque thoracis medio nigro-æneis, hac carinulâ longitudinali ferrugineâ*. (Long. corp. $2\frac{1}{2}$ lin.)

Be. globosus. *Curtis.*—Be. obsoletus *mihi*. *Steph. Catal. p. 59. No. 602.*

Subelongate, ovate, obtuse; griseous-yellowish, deeply punctured: head brassy-black, with sometimes a minute ferruginous spot on the forehead; thorax with an irregular, externally dentated, greenish or brassy-black spot on the disc, having an abbreviated longitudinal ferruginous carina in front: elytra deeply crenate-striated, and very dusky, the interstices thickly punctured, and more or less spotted with black: legs pale ferruginous, with the base of the four posterior dusky.

Probably *Hydrophilus signaticollis* of Megerle, an undescribed species.

I detected this species long since, and gave its locality to Mr. Ingpen, who published it by my MS. name in his useful "Instructions;" and have captured a single specimen near London, I believe at Hertford, and obtained others from Whittlesea-mere. "Bottisham."—*Rev. L. Jenyns*. "Whittlesea-mere, June and July."—*Messrs. Chant and Bentley*.

GENUS CIV.—HYDROBIUS, *Leach*.

Maxillary palpi considerably longer than the labial, the basal joint minute, the second elongate-clavate, third and fourth of nearly equal length, the latter elongate-ovate, obtuse: *labrum* transverse, entire. *Antennæ* nine-jointed; the basal joint robust, elongate, clavate, the second shorter and more slender, attenuated at the apex; the following nearly of equal length, clavate; the two next short, transverse; the remainder forming the club, the terminal joint being acuminate: *head* ovate: *eyes* small, not prominent: *clypeus* entire: *body* more or less convex: *elytra* entire, obtuse: *sternum* simple: *tibiæ* slightly spinose: *posterior tarsi* natatorious, ciliated: *claws* simple.

Hydrobius, the last of the aquatic genera, differs from the other Hydrophilidæ by the greater convexity of the body, which is posteriorly obtuse: the clypeus is entire, the scutellum small, the sternum simple, the antennæ nine-jointed, with the terminal joint large, somewhat compressed and acuminate. In the first subdivision of the second section of the genus, the maxillary palpi are very long, and the terminal joint is considerably shorter than the third; and in the succeeding subdivision they are abbreviated, and have the terminal joint longer than the third: they may probably form different genera hereafter.

A. Body more or less elongate. a. *Elytra striated throughout*.

Sp. 1. *picipes*. *Oblongus, nigro-piceus, nitidus, punctatus, pedibus dilutioribus, tibiis tarsisque rufescentibus, elytris obsolete striatis*. (Long. corp. $3\frac{1}{2}$ —4. lin.)

Hy. *picipes*. *Fabricius*.—*Steph. Catal. p. 60. No. 603*.

Oblong, deep pitchy-black, or obscurely æneous, shining: thickly and finely punctate: head with a few larger punctures on the sides and near the eyes: thorax also with some larger impressions on the lateral margins; and two slight foveæ on the disc towards the anterior edge: elytra obsoletely striated, the striæ composed of remote impressions, the alternate interstices with an irregular line of larger punctures: body dull black beneath: legs piceous, with the tibiæ and tarsi rufescent or rufo-ferruginous.

Var. β . Rather broader; more coarsely and thickly punctate, with the striæ on the elytra more distinct; the palpi pale testaceous, with the apex black, and the legs pale rufo-testaceous with the femora dusky. Probably a distinct species.

Not very common near London, but more abundant in the marshes towards the mouth of the Thames. “Lake of Killarney.”—*Dr. Leach*. “Southend.”—*Rev. F. W. Hope*. “Whittlesea-mere.” *Messrs. Chant and Bentley*. “Brackish waters near Gravesend, not uncommon.”—*Messrs. Stone and Bainbridge*.



Sp. 2. fuscipes. *Ovalis, nigro-piceus, punctatissimus, elytris regulariter striatis, pedibus fusco-piceis, tarsi rufis.* (Long. corp. $3\frac{1}{4}$ — $3\frac{1}{2}$ lin.)

Hy. fuscipes. *Linne.*—*Mart. C. pl.* 33. f. 15.—Hy. fuscipes. *Steph. Catal.* p. 60. No. 604.

Shorter but scarcely narrower than the last: oval, pitchy-black, thickly but not very coarsely punctulate, with some larger impressions on the head, and on the sides of the thorax: elytra rather faintly punctate-striate, the interstices thickly and finely punctulated, the alternate ones with some deeper impressions: body beneath dull black: legs piceous, with the tarsi rufescent: palpi ferruginous: antennæ with the club black.

Var. β . With the legs pale rufo-testaceous, the base of the femora dusky.

Common in every pond and collection of water throughout the metropolitan district. "Southend and Kensington-gardens."—*Rev. F. W. Hope.* "Bristol."—*Dr. Leach.* "Glanville's Wootton, and Scotland."—*J. C. Dale, Esq.*

Sp. 3. chalconotus. *Ovalis, cupreo- aut æneo-niger, vel splendide viridi-æneus, vagè punctatus, elytris subcrenato-striatis, pedibus piceo-testaceis, tarsi dilutioribus.* (Long. corp. 3 — $3\frac{1}{2}$ lin.)

Hy. chalconotus. *Leach MSS.* *Steph. Catal.* p. 60. No. 605.

More coarsely punctured than the last: colour very variable, coppery or brassy-black, or of a splendid greenish-brass, sometimes violaceous or bright green: head and thorax as in the preceding, but the punctures deeper: elytra more deeply striate, the striæ slightly crenulate: legs pitchy-testaceous, with the tarsi paler, and the base of the femora dusky.

The difference in sculpture, and usually brilliant metallic colouring, discriminates this from the foregoing insect.

Also very common throughout the metropolitan district, and I believe in other parts. "Spitchweek, Devonshire."—*Dr. Leach.* "Bottisham."—*Rev. L. Jenyns.*

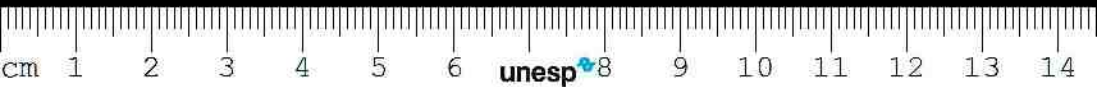
Sp. 4. subrotundus. *Brevis, subglobosus, nigro-piceus, vagè et creberrimè punctatus, elytris profundè punctato-striatis, pedibus nigro-piceis.* (Long. corp. $2\frac{1}{2}$ — $2\frac{3}{4}$ lin.)

Hy. subrotundus *mihi.* *Steph. Catal.* p. 60. No. 606.

Short, subglobose, pitchy-black, coarsely and thickly punctate: elytra rather deeply punctate-striate, the interstices alternately with deeper impressions: body beneath dull black: legs pitchy-black.

The inferior size and short subglobose form, with the coarseness of the sculpture, distinguish this from all the preceding species.

Found near London by myself; I also obtained one specimen from the Marshamian Cabinet.



b. *Elytra with one stria at the suture, or plain.*

Sp. 5. *melanocephalus*. *Ovatus, niger, thorace pallido, disco nigro, elytris pallidis, striâ suturali impressâ.* (Long. corp. 2—3 lin.)

Hy. *melanocephalus*. *Fabricius*.—*Steph. Catal. p. 60. No. 607.*

Ovate, black; finely punctured: head punctulated, black, with a pale marginal lunule before each eye: thorax finely and thickly punctured, pale griseo-testaceous, with a discoidal and two contiguous spots black: elytra oblong, pale griseous, with a dusky humeral spot, and a deep stria parallel with the suture: body dull black beneath, pubescent: legs pale ferruginous; femora generally pitchy-black.

Var. β . Rather larger, with the thorax obsoletely spotted with dusky; the crown darker, and frequently a longitudinal fuscous stria on the forehead.

Var. γ . *Steph. Catal. l. c.* With the head immaculate black; the thorax with its disc black; its margins and the elytra castaneous-red.

Plentiful in Battersea-fields during April and the beginning of May; and far from uncommon in other places round London at the same season, and in Norfolk. "Bottisham, not common."—*Rev. L. Jenyns*. "Southend."—*Rev. F. W. Hope*.

Sp. 6. *torquatus*. *Supra griseo-testaceus, vertice thoracisque disco obsoletius infuscatis, elytris subtilius punctulatis, striâ suturali profundè impressâ.* (Long. corp. $2\frac{3}{4}$ — $3\frac{1}{4}$ lin.)

Hy. *torquatus*. *Marsham*.—Hy. *melanocephalus* β . *Steph. Catal. p. 60. No. 607.*

Much larger than the last, the colour paler, less glossy, the punctures on the thorax and elytra smaller in proportion, &c. Above griseous-testaceous; head more or less clouded with fuscous: thorax with an obsolete brown cloud in the middle: elytra rather paler, very finely punctulated, with a deep stria on each near the suture, sometimes sprinkled with blackish dots towards the base, the apex generally immaculate: body punctulated beneath and black: femora at the base and beneath black; the apex above with the tibiæ and tarsi pale testaceous. This is the *Hydrophilus grisescens* of Gyllenhal, which I conceived might be a variety of the foregoing insect when my Catalogue was printed. I am now of a different opinion.

Found near Hertford and Ripley in the spring.

Sp. 7. *testaceus*. *Ovatus testaceus, vertice corporeque nigris, pedibus pallidis, elytris striâ suturali impressâ.* (Long. corp. $2\frac{1}{2}$ lin.)

Hy. *testaceus*. *Fabricius*. *Steph. Catal. p. 60. No. 608.*

Closely allied to the foregoing, of which it may possibly prove to be a variety: rather smaller: the body beneath dull black; the crown glossy-black; the head anteriorly, thorax, and elytra immaculate testaceous; the legs pale; the upper surface very finely and thickly punctulate.

Taken occasionally near London in the spring.

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Sp. 8. ochropterus. *Oblongo-ovatus, niger, elytrorum thoracisque lateribus luridis, maculâ ante utrumque oculum luridâ; elytris striâ suturali impressâ.* (Long. corp. 2 lin.)

Hy. ochropterus. *Marsham.*—*Steph. Catal. No. 60. p. 609.*

Still less than the foregoing, which it greatly resembles: oblong-ovate, thickly and finely punctulated; black, with the lateral margins of the thorax and elytra lurid; the head black, with a lurid spot before each eye: body dull black beneath: legs pale testaceous, with the tarsi rufescent.

This is apparently very distinct from all the preceding species of this genus:—I obtained one specimen from Mr. Marsham's cabinet, and possess others captured near London:—it also occurs in Norfolk.

Sp. 9. fulvus. *Oblongo-ovatus, niger, capite fulvo, thorace flavescente, disco immaculato, elytris flavescentibus, lineis obscuris nigris striâ suturali impressâ.* (Long. corp. $2\frac{1}{2}$ — $2\frac{3}{4}$ lin.)

Hy. fulvus. *Marsham.*—Hy. bicolor. *Steph. Catal. p. 60. No. 610.*

Allied to Hy. melanocephalus: black: head punctate, fulvous, or dusky: eyes black: thorax yellowish or fulvous, disc immaculate, sometimes dusky anteriorly: elytra fulvous or flavescient, with obsolete longitudinal dusky lines, and a deep stria parallel with the suture: abdomen dull black, pubescent: legs testaceous with dusky femora.

The Hy. fulvus of Marsham, which I formerly supposed to be synonymous with Hy. bicolor of Paykul, proves, upon a re-examination of the authentic Marshamian specimens, to be totally distinct; I have therefore restored the name of the former author.

Not uncommon during the spring throughout the metropolitan district. "Glanville's Wootton, Dorset."—*J. C. Dale, Esq.* "Southend."—*Rev. F. W. Hope.*

Sp. 10. lividus. *Oblongo-ovatus paulò depressus, supra griseo-flavescentibus punctatissimus, striâ suturali nullâ, palpis longissimis.* (Long. corp. $2\frac{1}{2}$ lin.)

Hy. lividus. *Forster.*—Hy. griseus. *Illiger.*—*Steph. Catal. p. 60. No. 611.*

Rather more oblong and less convex than the preceding: above pale griseous-yellow or ochraceous, very finely and delicately punctulated: head with the crown rather dusky: thorax sometimes with obsolete fuscous clouds: elytra griseous, thickly punctulated throughout, but not striated; sometimes with a few dusky longitudinal streaks: body beneath dusky-black: legs ferruginous, with the femora dusky: palpi extremely long, pale, with the apex black, or dusky.

Va. β . *Steph. Catal. l. c.* With the thorax and elytra variegated with dusky spots and lines.

Plentiful during April in ponds in Battersea-fields, at Hertford,



Ripley, in Norfolk, &c. "Bottisham, not common."—*Rev. L. Jenyns*. "Common at Kimpton."—*Rev. G. T. Rudd*. "Southend."—*Rev. F. W. Hope*.

Sp. 11. *marginellus*. *Oblongo-ovatus, ater nitidus, thoracis elytrorumque margine griseo-rufo, striâ suturali unicâ*. (Long. corp. $1\frac{1}{2}$ —2 lin.)

Hy. *marginellus*. *Fabricius*. *Steph. Catal.* p. 61. No. 612.

Oblong-ovate, deep glossy-black, thickly punctate, with the lateral margins of the thorax and of the elytra griseous-red: head with a fovea over each eye: thorax with too larger impressions on the disc anteriorly: elytra with a single stria on each parallel with the suture: body and legs obscure black: tarsi rufescent: palpi and antennæ pale testaceous, the latter with the club dusky.

Var. β . With the anterior margin of the thorax broadly griseous-red.

Not common near London, but found occasionally; also taken near Kingston-upon-Hull. "Southend."—*Rev. F. W. Hope*. "Ponds in Copenhagen-fields."—*Mr. Ingpen*.

Sp. 12. *affinis*. *Oblongo-ovatus, niger punctatissimus, thoracis lateribus elytrisque fusco-cinereis, striâ suturali unicâ*. (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Hy. *affinis*. *Paykul*. *Steph. Catal.* p. 61. No. 613.

Size and form of the preceding insect: head thickly punctate, black; thorax black, with the lateral margins broadly testaceous-brown, the disc punctulate throughout: elytra oblong, thickly and finely punctate, obscure griseous or testaceous brown, with the suture darker, and a single stria on each, not reaching to the base, parallel with the suture: body beneath and femora dull black: tibiæ and tarsi ferruginous.

Var. β . With the head alone black, the thorax and elytra pale testaceous.

This variety is the *Hydrophilus margipallens* of Marsham, of which I possess an authentic specimen. In *Entomologia Britannica* its length is stated to be $\frac{3}{4}$ line by a typographical error, which the author has corrected in his MS. copy; and without the assistance of the latter the species intended could never have been ascertained.

Also taken occasionally near London, but far from common. "Southend."—*Rev. F. W. Hope*.

B. With the body subglobose.

Sp. 13. *atricapillus*. PLATE XIV. f. 6. *Niger punctulatissimus, thorace elytris capitisque punctis duobus lurido-testaceis, elytris posticis obsolete punctato-striatis, suturali profundiori*. (Long. corp. 2— $2\frac{1}{2}$ lin.)

Hy. *atricapillus*. *Marsham MSS.* *Steph. Catal.* p. 61. No. 614.

Body and head black, the latter with a lurid or fulvous lunular spot on each side before the eyes; the thorax and elytra immaculate lurid-testaceous, thickly but finely punctulated; the latter with a rather deep stria parallel with

the suture, and towards the apex somewhat obsoletely punctate-striated: palpi and antennæ testaceous, the latter with a black club.

Var. β . With the elytra obsoletely clouded with dusky towards the lateral margins, near the apex.

This species is the *Hydrophilus bicolor* of Paykul, v. i. p. 184; a name which cannot be retained, Fabricius having previously applied it to a different species of this genus; I have therefore employed that by which it has been so long known in this country, in preference to coining a new one, and thereby unnecessarily add to the nomenclature.

I have occasionally captured this insect during the spring in Copenhagen-fields and near Hertford, and once at Ripley, but it is not very abundant near London. "Wandsworth-common."—*Mr. Ingpen*. "Near Norwich in April 1803, by Rev. W. Kirby." *Marsham's MSS.* "Southend, rather plentifully."—*Rev. F. W. Hope*. "Lawrence Waltham."—*Mr. S. Hanson*.

Sp. 14. orbicularis. *Ater-nitidus, suprà creberrimè punctulatus, elytris striâ suturali unicâ.* (Long. corp. $2-2\frac{1}{3}$ lin.)

Hy. orbicularis. *Fabricius*.—*Steph. Catal. p. 61. No. 615.*

Rather less than the preceding: nearly hemispherical: entirely of a deep glossy-black; thickly and regularly punctured throughout: head rather large: thorax very convex, the lateral margins rounded and sometimes a little piceous: elytra gibbous, with a single impressed stria near the suture, not reaching to the base: body clothed beneath with a cinereous pubescence: legs deep pitchy-black: tarsi rufescent: tibiæ sometimes paler.

The trophi of this species approximate rather closely to those of *Cercyon*.

Occasionally found in ponds in the metropolitan district, and in Norfolk. "In Kensington-gardens, and on Wandsworth-common."—*Mr. Ingpen*. "Glanville's Wootton."—*J. C. Dale, Esq.* "Southend."—*Rev. F. W. Hope*.

Sp. 15. bipunctatus. *Niger, thoracis lateribus pedibusque pallidis, elytris griseis creberrimè punctato-striatis, obscurè nigro-pulverulentis.* (Long. corp. $1\frac{1}{2}-1\frac{1}{2}$ lin.)

Hy. bipunctatus. *Fabricius*.—*Steph. Catal. p. 61. No. 616.*

Black, finely punctulated: head with a small pale spot on each side before the eyes: thorax with the lateral margins broadly pale-yellowish: scutellum black: elytra pale griseous, very convex, rather strongly punctate-striated, the striæ composed of distinct fuscous impressions, and giving the appearance of being irrorated with dusky or black; the margins paler: legs entirely pale.

A very common species in the neighbourhood of London; in Norfolk, Suffolk, and I believe in most parts of the kingdom.



“Bottisham.”—*Rev. L. Jenyns.* “Southend.”—*Rev. F. W. Hope.*

Sp. 16. *striatulus.* *Ater, thoracis margine elytrisque substriatis griseis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Hy. *striatulus.* *Fabricius.*—*Steph. Catal. p. 61. No. 617.*

Larger than the foregoing, the striæ and punctures less profound, the elytra less clouded with dusky, &c.; nevertheless it may be merely a variety: the head is black, with a very minute pale spot on each side: the palpi griseous: the thorax black, with a broad griseous margin: the elytra pale griseous, and very obscurely striated: the body obscure black: the legs pale griseous.

Less common than the last, but found throughout the metropolitan district.

Sp. 17. Colon. *Niger, thoracis lateribus pallidis, elytris tenuè punctato-striatis, fusco-griseis, versus apicem maculis duabus albidis.* (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

Hy. Colon *miki.* *Steph. Catal. p. 61. No. 618.*

Allied to the two last, but of a darker colour, the lateral margins of the thorax narrowly pale, &c. Deep black, finely punctulated; head with a very minute pale spot on each side; thorax with a narrower pale-yellowish lateral margin: the disc glossy-black: elytra dusky or brownish-griseous, very finely punctate-striated, the disc more or less clouded with a deeper tinge, and near the suture towards the apex two round whitish spots: the lateral margins, and sometimes the base, pale: legs pale griseous.

Sometimes found near London, but more abundant in the New Forest, Hants. “Bottisham.”—*Rev. L. Jenyns.*

Sp. 18. *bipustulatus.* *Niger, capite anticè maculis duabus fulvis, elytris testaceis nigro pulverulentis, stria suturali unicâ.* (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

Hy. *bipustulatus.* *Marsham.*—*Steph. Catal. p. 61. No. 619.*

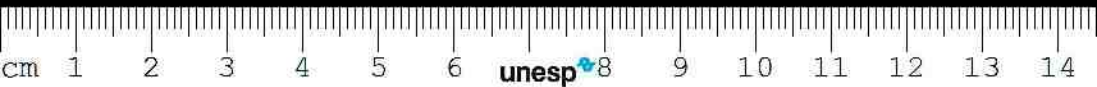
Glossy-black: head with two fulvous spots before the eyes: thorax testaceous, with three more or less confluent dusky spots on the disc, the lateral margins pale yellowish: elytra testaceous, obsoletely marked with interrupted black lines, each with a single impressed stria towards the suture: abdomen black: legs pale rufous.

The clouded thorax and pale hue, added to the small size of the insect, distinguish this from the following.

Far from uncommon near London, especially during the early part of the year: also found in Norfolk. “Common in the spring, near Andover.”—*Rev. G. T. Rudd.* “Bottisham.”—*Rev. L. Jenyns.*

Sp. 19. *minutus.* *Subovatus, piceus nitidus, elytrorum thoracisque lateribus pallidis, pedibus nigro-piceis.* (Long. corp. $1\frac{1}{3}$ — $1\frac{1}{2}$ lin.)

Hy. *minutus.* *Marsham.*—*Steph. Catal. p. 61. No. 620.*



Closely allied to the foregoing, and different in form from *Hydrop. globulus* of Paykul hereafter described. Subovate, glossy pitchy-black, very faintly punctulated throughout: the margins of the thorax narrowly pale: elytra with a single stria on each towards the suture, the lateral margins pale testaceous: body beneath and legs pitchy-black.

Very abundant, not only throughout the metropolitan district, but in other places; in Norfolk, Suffolk, Devonshire, &c. “Bottisham.”—*Rev. L. Jenyns*.

Sp. 20. *ochraceus*. *Subovatus, niger, thoracis lateribus pallidis, elytris ochraceis immaculatis, striâ suturali unicâ*. (Long. corp. $1-1\frac{1}{4}$ lin.)

Hy. *ochraceus mihi*.—*Steph. Catal. p. 61. No. 621.*

Allied to the last, but smaller, of a different colour and more deeply punctured: head immaculate black, finely punctured: thorax black, with the lateral margins pale yellowish, the disc finely punctulated: elytra very pale immaculate ochraceous, rather deeply punctured throughout, with a deep sutural stria on each: body beneath and legs pale griseous.

It is possible that this may be only an immature state of the foregoing, but the impressed dots seem larger and deeper.

Taken near London, and in the New Forest, Hants.

Sp. 21. *lutescens*. *Subovatus, nigro-piceus, thoracis angulis anticis elytrorumque marginibus pallide lutescentibus*. (Long. corp. $1-1\frac{1}{4}$ lin.)

Hy. *lutescens mihi*.—*Steph. Catal. p. 61. No. 622.*

Of a deeper colour, but of similar form to the preceding; above glossy piceous; the head black, immaculate: the thorax with the anterior angles alone pale lutescent: elytra obscurely punctured; with a faint stria near the suture, the lateral margins lutescent: body beneath and legs piceous.

Var. β . Hy. *sordens*. *Steph. Catal. p. 61. No. 624.* With the head black, the lateral margins of the thorax and elytra fulvous.

Found near London, and in Suffolk; “near Barham.”—*Rev. W. Kirby*.

Sp. 22. *foveolatus*. *Niger, thorace postice foveolato, elytris striâ unicâ impressâ*. (Long. corp. $\frac{3}{4}-1$ lin.)

Hy. *foveolatus*. *Haworth*.—*Steph. Catal. p. 61. No. 623.*

Smaller than the foregoing: glossy black: head immaculate: thorax with the lateral margins pale, with several minute foveolæ on the disc, sometimes confluent: elytra pitchy-black, very finely punctulated, with a slight stria on each near the suture: legs dull ferruginous.

Taken from April to June in ponds near London; “on Hampstead-heath,” &c.—*Mr. Ingpen*.



Sp. 23. æneus. *Ovalis, convexus, æneus, punctatissimus, palpis tarsisque ferrugineis.* (Long. corp. $1\frac{1}{2}$ lin.)

Hy. æneus. *Steven. Steph. Catal. Appendix.*

Rather narrower than the following, oval, convex, above densely and rather deeply punctured, of an obscure greenish-brass, rather glossy, beneath black: the femora piceous, the tibiæ and tarsi ferruginous; the palpi the same; antennæ piceous.

Apparently rare. I have one specimen, found I believe near Ripley, in the summer of 1827:—two specimens are also said to have been obtained from the New Forest.

Sp. 24. globulus. *Convexus, fusco-nigricans, subtilissimè punctulatus, thoracis lateribus pallidis, elytris unistriatis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Hy. globulus. *Paykul.—Steph. Catal. p. 61. No. 625.*

More convex than the foregoing; of a very glossy black: head very finely punctulated, immaculate: thorax delicately punctured, very convex, the disc black, the lateral margins broadly pale griseous: elytra black, nearly gibbous, thickly and finely punctulated throughout, with a single stria on each near the suture, the lateral margins and apex sometimes piceous: legs brownish-red, or pitchy. Very distinct from the authentic Marshamian specimens of *Hydrobius minutus*, before described.

Not uncommon near London, “In ponds on Hampstead-heath, Wandsworth-common,” &c.—*Mr. Ingpen.* “Bottisham.”—*Rev. L. Jenyns.*

Sp. 25. Seminulum. *Niger nitidus, lævis, elytris striâ suturali unica, pedibus rufo-piceis.* (Long. corp. $\frac{3}{4}$ lin.)

Hy. Seminulum. *Paykul.—Steph. Catal. p. 61. No. 626.*

The smallest insect of the genus; of a very glossy black, very gibbous: head convex, obtuse: thorax very convex, with the lateral and posterior margins rounded, smooth: elytra very convex, with a single stria on each near the suture, not touching the base; very smooth, with some obsolete impressions towards the apex, that are only visible with a powerful lens; the apex rather acute, and dull pitchy: body beneath pitchy-black: legs pitchy-red; tibiæ compressed, ciliated with spines.

Rare: I possess specimens taken near London; and I believe the insect occurs also in Norfolk.

FAMILY XV.—SPHÆRIDIIDÆ, *Leach.*

Antennæ scarcely as long as the thorax, nine-jointed, the basal joint very long, nearly straight, the four following small, the remainder forming a compressed perfoliated club. *Maxillary palpi* as long as the antennæ; the second joint



incrassated: *head* rounded anteriorly: *body* more or less hemispheric: *thorax* transverse: legs formed for walking: *tibiæ* compressed, spinose, with spurs at the apex:—*tarsi* five-jointed, filiform, the basal and terminal joints elongated, the latter with two unequal claws.

The passage from the last family to the present is doubtless most natural, and the habits of the insects are not widely dissimilar; the *Hydrobii* subsisting in a great measure upon decaying vegetable matter, and the *Sphæridiidæ* upon putrescent matter of a similar nature, that has previously passed through the bodies of animals. Again, many of the species of *Cercyon* are found only in damp places that are inundated in the winter, while others affect places of greater aridity. Their larvæ are unknown.

This family embraces two very distinct genera; which were divided by Dr. Leach; and may be known by the following succinct characters.

<i>Antennarum clava</i>	{ <i>solida: elytra striata:</i>	105. CERCYON.
	{ <i>lax: imbricata: elytra striis immunia:</i> . .	106. SPHÆRIDIMUM.

GENUS CV.—CERCYON, Leach.

Maxillary palpi four-jointed, the basal joint minute, the following elongated, slender at the base and greatly incrassated at the apex, the third nearly as long, slender, the terminal much shorter, rather stouter, ovate, attenuated at the apex. *Antennæ* very slender at the base, the four terminal joints forming an abrupt compact imbricated club: *body* very convex: *thorax* short, transverse: *scutellum* abbreviated: *wings* ample: *elytra* entire, striated, acute at the apex: *legs* moderate: *tibiæ* compressed, setose exteriorly; *tarsi* short, the anterior simple in both sexes.

The globose form and comparative minuteness of the insects of this genus well discriminate them from the *Sphæridia*, from which they were separated by Dr. Leach: they are unquestionably very closely allied to the *Hydrobii*: their pabulum chiefly consists of horse-dung; and they are most abundant during the early summer months. The species have been greatly neglected; but from a careful examination of the original Marshamian specimens, as well as of a vast number obtained by myself from various sources, I cannot but consider those recorded in the following pages as distinct, with the exception of such as are given with doubt*. The genus

* I may here take occasion to remark, that the new species in this genus, as well as in most other instances, are *rarely* introduced upon the examination of



is evidently capable of being subdivided, but I have not succeeded in detecting any satisfactory characters.

Sp. 1. ruficorne. *Nigrum, depressiusculum, elytris apice pallide rufis, marginibus piceis, antennis palisque rufo-ferrugineis.* (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

Sp. ruficorne. Kirby MSS.—Ce. ruficorne. Steph. Catal. p. 62. No. 627.

Body somewhat depressed, above deep black, finely punctured, beneath rather obscure: palpi and antennæ totally of a rusty-red: thorax immaculate, the margins a little dilated, and in some specimens obscurely piceous: elytra rather faintly punctate-striated; black, with the lateral margins piceous, the apex pale rufous, or testaceous: legs pitchy-black; tarsi sometimes rufescent.

This and the four following species differ from the rest of the genus by having the sides of the thorax more or less dilated, and the body somewhat depressed.

Occasionally taken in damp places near London. “On the banks of the Orwell, near Barham.”—Rev. W. Kirby.

Sp. 2. littorale. *Nigro-piceum, depressiusculum, elytris apice pallidis, basi ad scutellam puncto rufo.* (Long. corp. $1\frac{1}{2}$ — $1\frac{1}{2}$ lin.)

Sp. littorale. Gyllenhal.—Ce. littorale. Steph. Catal. p. 62. No. 628.

Body rather depressed, above pitchy-black, most minutely punctured, beneath obscure black: palpi and antennæ pitchy-red, the club of the latter dusky: thorax pitchy, with the lateral margins paler, and slightly dilated: elytra finely striated, the striæ punctate, with the apex pale, the margins rufescent, and an obscure red spot at the base near the scutellum: legs castaneous.

Found occasionally near London in damp places. “Beneath *Zostera marina* in the river Orwell, near Ipswich.”—Marshall MSS.

Sp. 3. binotatum. *Nigrum depressiusculum, elytris lurido-testaceis, maculis duabus exustis ad suturam versus apicem.* (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

C. binotatum. Steph. Catal. p. 62. No. 629.

single specimens, but upon the collation of extensive series of varieties, each specimen retaining its own peculiar, though minute, characteristic difference; and that I possess many other specimens of such minute insects which I have not ventured to give as distinct species. I may here also reiterate the observation at the foot of page 126 of my first volume, not only so far as regards species, but genera: as amongst numerous other novelties which have recently been communicated to me may be enumerated *Masoreus luxatus*! *Nothiophili 4-punctatus* et *fulvipes*, an extraordinary Geodephagous genus allied to the Scaritidæ? which I propose to call *Sphæroderus*:—another more remarkable one allied to *Macronychus*, and apparently connecting that genus with *Ochthebius*; several new *Hydropori* and *Colymbetes*, &c.: all of which I shall in due time describe.



Body somewhat depressed; above pitchy-black or deep black; thorax with the margins rather paler or castaneous; elytra of a lurid testaceous, with two brown subquadrate spots varying in magnitude near the suture towards the apex; legs pitchy-red, with the femora dusky; palpi dusky.

Var. β . With a slight brown cloud at the base of the elytra near the suture; the suture itself rather dusky.

It is probable that this is merely an immature state of the foregoing.

Taken near Barham in Suffolk by myself, in September 1821.—
“South Creak, Norfolk.”—*Rev. T. Skrimshire*.

Sp. 4. dilatatum. *Nigro-piceum, depressiusculum, capite atro, thorace elytrisque lurido-testaceis.* (Long. corp. $1\frac{1}{3}$ lin.)

Ce. dilatatum. *Steph. Catal. p. 62. No. 630.*

Rather depressed: of a pitchy-black; with the head jet-black, immaculate: thorax with the margins dilated, very glossy-smooth livid testaceous; elytra rather faintly punctate-striated, immaculate livid-testaceous; legs testaceous-red, with the base of the femora dusky: palpi pitchy-red.

Whether this be also an immaculate state of *Ce. littorale* time alone can determine.

Found with the foregoing insects.

Sp. 5. depressum. *Nigro-piceum, depressum, thoracis lateribus elytrisque castaneo-piceis, his apice pallidioribus.* (Long. corp. $1-1\frac{1}{4}$ lin.)

Ce. depressum. *Steph. Catal. p. 62. No. 631.*

Greatly depressed; pitchy-black, finely punctured throughout: head immaculate: thorax very glossy, with the disc pitchy-black, the margins castaneous and dilated: elytra rather faintly punctate-striated, the striae vanishing on the margins, which are of a pitchy-chestnut; and the apex pale testaceous: legs pitchy-black: antennae and palpi rufescent, the club of the former dusky.

Taken near Brockenhurst in the New Forest. “Southend, in damp places.”—*Rev. F. W. Hope*.

Sp. 6. aquaticum. *Aterrimum, convexum, nitidissimum, elytris obsoletissime striatis, apice tibiisque ferrugineis.* (Long. corp. $\frac{1}{2}-\frac{2}{3}$ lin.)

Sp. aquaticum. *Kirby MSS.—Ce. aquaticum. Steph. Catal. p. 62. No. 632.*

Convex; very deep glossy-black: head and thorax very smooth, shining, immaculate, black: elytra very obsoletely punctate-striated, the apex very obscure ferruginous: legs pitchy-black, with the tibiae ferruginous: palpi and antennae rufescent, the club of the latter dusky.

Var. β . With the legs entirely pitchy-red.

Sometimes taken near London. “Found in water, never in dung.”—*Rev. W. Kirby*.

Sp. 7. flavipes. *Convexum, atrum, elytris substriatis, apice flavescentibus, pedibus rufis.* (Long. corp. $\frac{3}{4}-1$ lin.)

Sp. flavipes. *Fabricius?*—Ce. flavipes. *Steph. Catal. p. 62. No. 633.*

Convex, deep glossy-black, very minutely punctulated above: head and thorax immaculate: elytra rather faintly striated, the lateral margin slightly rufescent, the apex yellowish: legs castaneous-red: antennæ and palpi rufous.

The deep extended yellow apex of the elytra discriminates this from the preceding species.

This species was first observed in Norfolk by Professor Hooker; it has however since occurred in Suffolk, and near London not uncommonly.

Sp. 8. terminatum. *Nigrum, subconvexum, glaberrimum, elytris striatis ad apicem ferrugineis, pedibus piceo-ferrugineis.* (Long. corp. $1-1\frac{1}{4}$ lin.)

De. terminatus. *Marsham.*—Ce. terminatum. *Steph. Catal. p. 62. No. 634.*

Less convex than the preceding: body black, very glossy: elytra black, striated, the striæ beautifully and thickly punctated; with a large pale ferruginous spot at the apex, extending laterally nearly to the base: antennæ and legs pitchy-red.

The less convex form, and broad lateral ferruginous patch at the apex of the elytra, distinguish this from the foregoing insects.

Where the Marshamian specimen was taken I am not aware; I have however found specimens near London.

Sp. 9. acutum. *Convexum, postice acutum, atrum, nitidissimum, elytris substriatis, pedibus piceo-castaneis.* (Long. corp. $\frac{1}{2}-\frac{3}{4}$ lin.)

Sp. acutum. *Kirby MSS.*—Ce. acutum. *Steph. Catal. p. 62. No. 635.*

Convex, rather acute posteriorly, very deep glossy-black: head and thorax immaculate: elytra very faintly striated, the apex generally concolorous: legs pitchy-chestnut; antennæ and palpi the same.

Var. β . *Steph. Catal. l. c.*—More glossy and of a more intense black.

Var. γ . *Steph. Catal. l. c.*—With a minute rufescent spot at the apex of the elytra, and the club of the antennæ dusky.

The attenuated posterior extremity discriminates this species from the foregoing.

Var. γ . may be distinct.

Found in Suffolk and near London; sometimes occurring in Agarics and Boleti.

Sp. 10. *Calthæ. Subconvexum, atrum, nitidum, elytris striatis apice obsolete ferrugineis, pedibus piceis.* (Long. corp. 1 lin.)

De. *Calthæ. Scopoli?*—Ce. *Calthæ. Steph. Catal. p. 62. No. 636.*

Less convex than the last; very deep glossy-black: head and thorax immaculate, faintly punctured; elytra distinctly punctate-striated, the interstices finely punctured; the apex obsoletely ferruginous: legs, antennæ, and palpi pitchy-red.

The inferior convexity and obtuseness of the body, and minute apical spot of the elytra, and superior bulk, distinguish this insect from Ce. acutum.



Taken in marshy districts near London, frequenting the flowers of *Caltha palustris*.

Sp. 11. *bolitophagum*. *Valde convexum, nigrum, antennis pedibusque rufo-piceis, elytris striatis, apice fuscis, interstitiis striarum punctulatis.* (Long. corp. 1 lin.)

De. *bolitophagus*. *Marsham*.—Ce. *bolitophagum*. *Steph. Catal. p. 62. No. 637.*

More convex and smooth than the last: of a very glossy, deep, immaculate black: the elytra very faintly and delicately striated: the interstices finely punctured, dusky, with the apex fuscous: the antennæ and legs rufo-piceous.

The glossiness and convexity of the body, and faintly striated elytra, form the chief difference between this and the foregoing species.

Not common: found near London; occasionally in Boleti.

Sp. 12. *immune*. *Convexum, atrum-nitidum, elytris obsoletissime striatis, antennis pedibusque testaceo-ferrugineis.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Sp. *immune*. *Kirby MSS*.—Ce. *immune*. *Steph. Catal. p. 62. No. 638.*

Convex, shining black; head and thorax immaculate: elytra very obsoletely striated, the striæ composed of minute impressions; the interstices smooth, the apex slightly piceous: antennæ and legs rusty-testaceous.

The very faint and nearly obsolete striæ on the elytra, and the nearly immaculate apex of the latter, are the principal characters of discrimination between this species and all the foregoing. It has been called in some cabinets by the name of *Sphæridium læve*.

Found in Norfolk and Suffolk, and occasionally near London.

Sp. 13. *lævigatum*. *Valde convexum, nigrum, antennis pedibusque rufo-piceis, elytris striatis, interstitiis striarum impunctatis.* (Long. corp. 1—1 $\frac{1}{8}$ lin.)

Sp. *lævigatum*. *Kirby MSS*.—Ce. *lævigatum*. *Steph. Catal. p. 62. No. 629.*

Glossy black, very convex, head and thorax immaculate; elytra rather faintly striated, the interstices impunctate, black, with the apex rather obscurely pale or pitchy: antennæ and legs pitchy-red: palpi and club of the antennæ dusky.

The smooth interstices between the striæ on the elytra, and the superior bulk of the insect, distinguish it from *Ce. bolitophagum*, which it most resembles.

Also found in Norfolk and Suffolk, and sometimes near London; at Hertford and Ripley.

Sp. 14. *apicale*. *Ovatum, atrum-nitidum, concinne punctatum, elytris tenuè punctato-striatis, atro-piceis, apice castaneo.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Ce. *apicale*. *Steph. Catal. p. 62. No. 640.*

Ovate: head and thorax glossy pitchy-black, immaculate, the entire surface beautifully and thickly punctured; elytra deep piceous, with the apex casta-



neous, the disc thickly punctured, and rather faintly punctate-striated: femora black: tibiæ and tarsi castaneous-red: palpi pitchy.

Differs from *Ce. lævigatum* by its punctured surface, castaneous apex to the elytra, coloured tibiæ, and tarsi, and dissimilar form.

Found near London.

Sp. 15. obsoletum. *Rotundato-ovatum, nigrum, piceum. convexum, elytris tenuè punctato-striatis, apice pedibusque rufescentibus.* (Long. corp. $1\frac{1}{4}$ — $1\frac{3}{4}$ lin.)

Sp. obsoletum. *Gyllenhal.*—*Ce. obsoletum.* *Steph. Catal. p. 62. No. 641.*

Rounded-ovate, slightly depressed, deep black; above finely punctured throughout, head and thorax immaculate: elytra very faintly punctate-striate, the interstices flat, thickly punctulate, black; the apex and posterior margins indeterminate and obscurely rufo-piceous: body black: legs rufescent, the femora piceous: palpi pitchy-black, with the joints paler: antennæ rusty-pitchy, with the capitulum dusky.

The largest species of the genus: differs from all the foregoing by being less glossy, and from *Ce. piceum* by its size, the less punctate striæ on the elytra, and the coloured apex of the latter, &c.

Not very common: taken occasionally on Hampstead heath; at Hertford and Ripley. “Bottisham.”—*Rev. L. Jenyns.* “Netley.”—*Rev. F. W. Hope.*

Sp. 16. piceum. *Ovatum, nigrum, glaberrimum, elytris pedibusque piceis.* (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

De. piceus. *Marsham.*—*Ce. piceum.* *Steph. Catal. p. 63. No. 642.*

Ovate, head and thorax of a pitchy-black, immaculate, very smooth and glossy: elytra entirely piceous, with the apex rather paler; the entire surface minutely punctulated, and the disc very obsoletely striated: the legs also entirely piceous.

Distinguished by its ovate form, and nearly uniform piceous elytra.

In size and tinge of colour this species varies considerably.

Very abundant during May and June near London: also found in Norfolk, Suffolk, and Cambridgeshire.

Sp. 17. picinum. *Subovatum, atrum, glaberrimum, nitidum, abdomine subtilis nigro-testaceum, elytris pedibusque piceis.* (Long. corp. $1\frac{1}{2}$ lin.)

De. picinus. *Marsham.*—*Ce. picinum.* *Steph. Catal. p. 63. No. 643.*

Subovate, very smooth, glossy; antennæ, head, and thorax immaculate black: elytra piceous throughout, the apex concolorous, striated, the striæ composed of impressed dots: abdomen beneath testaceous-black: legs piceous.

The somewhat greater bulk, uniformly coloured and pale elytra and testaceous-black abdomen distinguish this species from the foregoing.

Taken near London; and in Suffolk, not uncommonly.

Sp. 18. simile. *Subovatum, atrum, glabrum, elytris totis, pedibusque rufo-castaneis.* (Long. corp. 1 — $1\frac{1}{4}$ lin.)



De similis. *Marsham*.—*Ce. simile*. *Steph. Catal. p. 63. No. 644.*

Less than the last; subovate: head and thorax glossy pitchy-black, with the margins rather paler: elytra castaneous-red, rather deeply punctate-striated, the interstices slightly convex and impunctate: abdomen and legs pale castaneous-red.

The plain immaculate rufescent elytra, and pale legs, distinguish this from the foregoing: of which the specimens examined may possibly prove to be immature examples.

Also found near London; not common.

Sp. 19. *suturale*. *Subovatum, atrum nitidum, elytris rufo-castaneis sutura nigra, pedibus rufescentibus*. (Long. corp. $1\frac{1}{3}$ — $1\frac{1}{2}$ lin.)

Ce. suturale. *Steph. Catal. p. 63. No. 645.*

Subovate, glossy: head and thorax immaculate black, minutely punctured: elytra rather faintly punctured, and slightly punctate-striated, the interstices slightly convex; the disc bright rufo-castaneous; the suture deep black, nearly to the apex: abdomen deep glossy-black; legs rufescent, with a dusky cloud in the middle of the femora.

The castaneous elytra with a jet-black suture distinguishes this from the foregoing, exclusively of other differences.

Inhabits the neighbourhood of London; and I have obtained specimens from Norfolk.

Sp. 20. *laterale*. *Subovatum, piceum, glaberrimum nitidum, thoracis lateribus pallidioribus, elytris obsolete striatis*. (Long. corp. $1\frac{1}{2}$ lin.)

De. lateralis. *Marsham*.—*Ce. laterale*. *Steph. Catal. p. 63. No. 646.*

Subovate: very smooth, glossy-piceous, except the sides of the thorax, which are paler, and the apex of the elytra, which is slightly rufescent: the entire surface is thickly and rather deeply punctured throughout, and the elytra are rather obsoletely punctate-striated: abdomen black: legs pitchy-red.

From *Ce. suturale* this differs by the distinctly coloured lateral margins of the thorax, and from *Ce. simile* by the colour of the elytra and sculpture.

Found abundantly near London in May. “*Bottisham*.”—*Rev. L. Jemyns*. “*Netley and Southend*.”—*Rev. F. W. Hope*.

Sp. 21. *hæmorrhoidale*. *Convexum, nigrum nitidum, elytris apice castaneo-rufis, antennis pedibusque nigris*. (Long. corp. $1\frac{1}{2}$ lin.)

Sp. hæmorrhoidale. *Fabricius*.—*Ce. hæmorrhoidale*. *Steph. Catal. p. 63. No. 647.*

Rather larger than the foregoing: subovate; of a deep glossy-black, finely punctured; head and thorax immaculate: elytra with the apex alone castaneous-red, the rest black; rather faintly punctate-striated; the abdomen, antennæ, and legs black.

The black antennæ and legs, combined with the bright castaneous-red apex of the



elytra, distinguish this species from the preceding, and its less convex form from the following, which it somewhat resembles in colour.

Found near London and in Suffolk.

Sp. 22. femorale. *Valdè convexum, atrum nitidum, elytris lateribus castaneo-rufis, pedibus rufis, femoribus nigris.* (Long. corp. $1\frac{1}{2}$ lin.)

Sp. femorale. *Kirby MSS.*—Ce. femorale. *Steph. Catal. p. 63. No. 648.*

Allied to the last, but more convex: very deep shining black: head and thorax immaculate, finely punctured: elytra also finely punctured, deep pitchy-black, with the lateral margins rufo-castaneous; the disc punctate-striated: femora black; tibiæ and tarsi rufous.

Known by the rufous lateral margin to the elytra, black femora, and convexity.

Also found near London and in Suffolk.

Sp. 23. hæorrhœum. *Valdè convexum, ovatum, nigrum nitidum, elytris striatis apice determinatè rufis, pedibus piceis, tibiis tarsisque dilutioribus.* (Long. corp. $1\frac{1}{2}$ lin.)

Sp. hæorrhœum. *Gyllenhal.*—Ce. hæorrhœum. *Steph. Catal. p. 63. No. 649.*

Somewhat larger than the last; very convex, and obtuse: deep glossy black: head and thorax thickly punctured, the latter especially, and very gibbous: elytra distinctly striated, the striæ punctated, the interstices finely but obsoletely punctulated; the apex with a distinct large pale rufous patch, with the suture black: beneath black: legs pitchy-black, with the tibiæ and tarsi paler.

A very common species throughout the metropolitan district; in Norfolk, Suffolk, Devonshire, &c. “Bottisham.”—*Rev. L. Jenyns.* “Netley and Southend.”—*Rev. F. W. Hope.*

Sp. 24. xanthorhœum. *Valdè convexum, ovatum, atrum nitidum, elytris striatis, apice rufo, pedibus nigris, tarsis rufis.* (Long. corp. $1\frac{1}{3}$ lin.)

Ce. xanthorhœum. *Leach MSS.*—*Steph. Catal. p. 63. No. 650.*

Rather less and of a deeper colour than the last: very convex, ovate, deep jet-black, shining: head and thorax thickly punctured, immaculate: elytra deep black, slightly striated, the interstices punctured, the apex rufous: femora and tibiæ pitchy-black: tarsi rufous.

Probably a variety of the foregoing.

Inhabits the same places as the preceding.

Sp. 25. xanthocephalum. *Valdè convexum, ovatum, atrum nitidum, elytrorum apice apiteque piceo-rufis.* (Long. corp. $1\frac{1}{3}$ lin.)

Sp. xanthocephalum. *Kirby ? MSS.*—Ce. xanthocephalum. *Steph. Catal. p. 63. No. 651.*

Size of the last, and resembling it in form, but differing in the colour of its head: of a deep shining black, finely punctured on the head and thorax, the former of a pitchy-red; the latter immaculate: elytra finely striated, the interstices

faintly punctured; the apex pitchy-red: legs pitchy-black, with the tibiæ and tarsi paler.

Found occasionally in Norfolk and Suffolk, and near London.

Sp. 26. *infuscatum*. *Convexum, atrum, opacum, thorace gibboso pulvinato, elytris piceo-nigris, apice paulò dilutiori*. (Long. corp. $\frac{3}{4}$ lin.)

Ce. *infuscatum*. *Steph. Catal. p. 63. No. 652.*

Similar in form to the three last, but much smaller: of a deep obscure black; head and thorax immaculate, thickly punctulated, the thorax very gibbous: elytra very obsoletely striated, the interstices scarcely punctured and rather flat; deep opaque pitchy-black, with the apex rather paler: legs entirely of a castaneous-red.

This and the three last are of a more convex form than the rest of the genus: they may be readily known from each other by the characters above given.

Not common: found near London.

Sp. 27. *impressum*. *Ovatum, atrum nitidum, capite thorace maculâque triangulari ad scutellum nigris, elytris pedibusque rufo castaneis*. (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Sp. *impressum*. *Sturm.*—Ce. *impressum*. *Steph. Catal. p. 63. No. 653.*

Larger than the following: ovate, glossy: head and thorax deep black, immaculate; elytra deep rufo-castaneous, with a large triangular black patch at the scutellum: the disc punctate-striated, the striæ rather deep, the interstices thickly punctate; legs also bright rufo-castaneous: antennæ pale testaceous; palpi dusky.

Considerably larger than the following species, and without the lateral black streak at the base of the elytra, as in that and Ce. *conspurcatum*.

Also somewhat rare: taken near London, and in Hampshire.

Sp. 28. *melanocephalum*. *Oblongo-ovatum, nigrum, elytris rufo-testaceis, maculâ baseos communi triangulari alterâque laterali nigris*. (Long. corp. $\frac{3}{4}$ —1 lin.)

De. *melanocephalus*. *Linne.*—Ce. *melanocephalus*. *Steph. Catal. p. 63. No. 654.*

Oblong-ovate, shining: head and thorax deep immaculate black, punctured: elytra rufo-testaceous, with a large triangular common black spot at the base, and another smaller one at the outer anterior angle; the surface finely and thickly punctured, and rather faintly punctate-striated: legs rufo-testaceous: antennæ and palpi dusky-black.

Var. β . *Steph. Catal. l. c.*—With the femora deep black.

The smaller size, more elongate form, dark antennæ and palpi, and black patch at the lateral angle of the elytra, sufficiently distinguish this from the foregoing; and the former characters discriminate it from the following.

Found copiously from April to June in meadows and pastures, throughout the metropolitan district.

Sp. 29. conspurcatum. *Oblongo-ovatum, nitidum nigrum, elytris pallidè rufo-testaceis, elytris macula baseos communi triangulari humerisque nigris, antennis pedibusque pallidè testaceis.* (Long. corp. $\frac{1}{8}$ — $\frac{3}{4}$ lin.)

Sp. conspurcatum. *Sturm.*—Ce. conspurcatum. *Steph. Catal. p. 63. No. 655.*

Oblong-ovate, shining: head and thorax black, immaculate: elytra pale rufo-testaceous, finely punctured, and rather delicately punctate-striated, the base with a large common triangular black spot, and the lateral margin with an elongate black streak: legs pale rufo-castaneous; antennæ the same; palpi dusky, sometimes pale-testaceous.

This minute species varies considerably in size: it differs from the last in its smaller size, paler antennæ and legs, and the dissimilarly formed streak at the base of the elytra.

Apparently very abundant near Lyndhurst in the New Forest, but less so near London.

Sp. 30. atomarium. *Ovatum, nigrum, obscurum, punctatissimum, elytris profundè crenato-striatis, apice pedibusque ferrugineis.* (Long. corp. $\frac{1}{2}$ — $\frac{3}{4}$ lin.)

Sp. atomarium. *Fabricius.*—Ce. atomarium. *Steph. Catal. p. 63. No. 656.*

Small: ovate, black, obscure, thickly punctured: palpi and antennæ piceous: head and thorax immaculate: elytra broad, dilated at the sides, slightly depressed, striated, the striæ very deeply crenate-punctate, the interstices elevated, thickly punctulated, black, obscure, the apex more or less rufescent: legs rusty-red; the femora sometimes piceous.

The deeply crenate striæ on the elytra of this species discriminate it from all the other species. It varies greatly in size.

Extremely common in the neighbourhood of London.

Sp. 31. sordidum. *Ovatum, obscuro-piceum, capite nigro, elytris rufo-piceis, punctato-striatis, pedibus piceis.* (Long. corp. 1 lin.)

De. sordidus. *Marsham.*—Ce. sordidum. *Steph. Catal. p. 63. No. 657.*

Ovate: head black: thorax pitchy-black, punctulated: elytra pitchy-red, punctate-striated, the interstices finely punctured: breast black, punctulated; abdomen beneath rufo-ferrugineous, or piceous: legs piceous: antennæ black, rufous at the base.

Allied to the last in form, but the striæ less impressed, the colour different, &c.

The Marshamian specimens alone are the only ones that I have hitherto examined; I am ignorant of their locality.

Sp. 32. convexium. *Rotundo-ovatum, atrum, obscurum, antennis pedibusque picco-castaneis.* (Long. corp. $\frac{1}{2}$ — $\frac{3}{8}$ lin.)

Sp. convexium. *Kirby MSS.*—Ce. convexium. *Steph. Catal. p. 64. No. 658.*

Rounded-ovate, deep obscure black: head and thorax thickly punctured, immaculate: elytra opaque black, the apex slightly margined with piceous;

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faintly punctate-striated, the interstices impunctate: legs and antennæ pitchy-chestnut: palpi dusky.

Broader and of a deeper colour than the next species, which greatly resembles it:—they are both somewhat similar in form to *Ce. hæmorrhœum* and its affinities, but considerably smaller.

I obtained a single example of this insect from Mr. Marsham's collection; and have since procured others that were taken near London.

Sp. 33. convexior. *Oblongo-ovatum, atrum, nitidum, elytris apice tarsisque rufo-castaneis.* (Long. corp. $\frac{1}{2}$ — $\frac{7}{8}$ lin.)

De. convexior. *Marsham MSS.*—*Ce. convexior. Steph. Catal. p. 64. No. 659.*

Oblong-ovate; deep glossy-black: head and thorax immaculate, finely and thickly punctured: elytra rather deeply punctate-striated, the interstices a little elevated and punctulated; deep shining black, with the apex distinctly bright castaneous: femora and tibiæ dusky piceous, the latter palest, or sometimes rufescent; tarsi light castaneous-red: antennæ and palpi rufous.

Not so broad as the last, more glossy, the elytra more deeply-striated, and the interstices punctured.

I also obtained this species from the Marshamian cabinet; and have since procured other specimens captured near London.

Sp. 34. convexiusculum. *Oblongo-ovatum, subconvexum, atrum, nitidum, elytris tenui punctato-striatis apice obscure piceo.* (Long. corp. $\frac{3}{4}$ lin.)

De. convexiusculum. *Marsh. MSS.*—*Ce. convexiusculum. Steph. Catal. p. 64. No. 660.*

Oblong-ovate, slightly convex, deep shining black; head and thorax immaculate, punctulated: elytra rather depressed, faintly punctate-striated, the interstices nearly flat, obsolete punctured; deep pitchy-black, the apex obscurely piceous: legs dull castaneous-red, the femora rather dusky: club of the antennæ and palpi black.

Somewhat less than the last, the elytra more depressed, faintly striated, the interstices nearly flat, scarcely punctulated, and palpi black.

From the Marshamian cabinet: it occurs near London.

Sp. 35. nigrinum. *Subconvexum, obscure subæneum, elytris obsoletissime striatis, interstitiis obsoletè punctatis pedibusque nigris.* (Long. corp. $\frac{3}{4}$ lin.)

De. nigrinus *. *Mus. Marsham.*—*Ce. nigrinum. Steph. Catal. p. 64. No. 661.*

* This insect is not the *Dermestes nigrinus* of *Entomologica Britannica*, which has been erroneously given as a synonym for *Hydrobius Seminulum*: the *De. nigrinus* of Marsham, of which I possess the original specimens, being *Limnebius nigrinus* of my Catalogue; the species described as *De. nigricans*, in p. 121, by a typographical error.

Subconvex, obscure dull æneous, the elytra very obsoletely striated: the interstices obsoletely punctulated, the apex concolorous: antennæ and legs dull black.

The obscure brassy hue of the upper surface of this species, and the obsoleteness of the striæ on the elytra, with the black legs and antennæ, well distinguish it from the rest of the genus.

I have but one example of this species, which I procured from the Marshamian cabinet by the above name; not as the *De. nigrinus* of *Entomologica Britannica*, which was also in the collection.

Sp. 36. *immaculatum*. *Ovatum, convexum, piceum, nitidum, elytris piceo-nigris immaculatis, obsoletissimè striatis, pedibus piceis.* (Long. corp. $\frac{3}{4}$ lin.)

Sp. *immaculatum*. Kirby MSS.—Ce. *immaculatum*. Steph. Catal. p. 64. No. 662.

Ovate, convex; glossy pitchy-black; head black: thorax piceous, thickly punctulated: elytra of an immaculate pitchy-black, very obsoletely striated, the interstices scarcely punctulated; legs piceous: antennæ and palpi rufescent.

This minute species is distinguished by having the apex of the elytra concolorous, and the elytra scarcely striated or punctured.

Found near London and in Suffolk.

*Sp. 37. *stercorator*. *Oblongo-ovatum, atrum, nitidum, elytris obsoletè striatis, interstitiis creberrimè punctulatis, apice piceis.* (Long. corp. $\frac{6}{12}$ — $\frac{1}{2}$ lin.)

Sp. *stercorator*. Kirby MSS.—Ce. *stercorator*. Steph. Catal. p. 64. No. 663.

Minute: oblong-ovate; deep glossy-black; head and thorax immaculate: elytra very obsoletely striated, the interstices thickly punctulated, the apex piceous: femora pitchy-black: tibiæ and tarsi rufescent; antennæ with the club, and the palpi, dusky.

Less than *C. minutum*, which it greatly resembles, but differs in having the apex of the elytra pitchy, and slightly in form:—from *Ce. merdarium* it differs in having the tibiæ and tarsi rufescent.

Found near London and in Suffolk.

Sp. 38. *merdarium*. *Oblongo-ovatum, aterrimum, subnitidum, elytris obsoletè striatis, apice rufescente.* (Long. corp. $\frac{1}{2}$ lin.)

Sp. *merdarium*. Sturm ?—Ce. *merdarium*. Steph. Catal. p. 64. No. 664.

Oblong-ovate, rather shining: head and thorax deep black, immaculate; elytra rather faintly striated, the interstices obscurely punctured; deep black, the apex pale rufescent; legs, antennæ, and palpi entirely of a deep black.

The nearly jet-black hue of this minute species, which has merely the apex of the elytra coloured, sufficiently points out its distinction from its congeners: it is probably the *Sph. merdarium* of Sturm, but his figure is without the [setæ on the tibiæ, which, if correct, would seem to indicate a generic difference.

Inhabits the metropolitan district, not common.

Sp. 39. *pygmæum*. *Ovatum, nigrum, elytris obsolete striatis, castaneis basi saturatoribus, femoribus piceis, tibiis tarsisque nigris.* (Long. corp. $\frac{1}{2}$ lin.)

Sp. *pygmæum*. *Illiger*.—Ce. *pygmæum*. *Steph. Catal. p. 64. No. 665.*

Minute: ovate; black, shining: head and thorax immaculate, punctulated: elytra thickly punctured; rather obsoletely striated, deep castaneous, with the base darker: the femora pitchy; the tibiæ and tarsi rufous.

The pitchy femora, and more deeply coloured elytra, distinguish this from Ce. *erythropum*; which may however be only an immature state of the present insect.

Far from uncommon in the neighbourhood of London: also found in Norfolk.

Sp. 40. *erythropum*. *Ovatum, nigrum, elytris obsolete striatis, piceo-castaneis apice rufo, pedibus omninò rufis.* (Long. corp. $\frac{1}{2}$ lin.)

Sp. *erythropum*. *Kirby MSS.*—Ce. *erythropum*. *Steph. Catal. p. 64. No. 666.*

Closely allied to the last; very minute: ovate, black; head and thorax pitchy-black, immaculate, finely punctured: elytra pitchy-chestnut, with the apex rufous; the surface finely punctured and faintly striated; the legs entirely rufous.

The totally rufous legs and paler colour serve to distinguish this from the foregoing.

Taken in Norfolk, Suffolk, and near London.

Sp. 41. *lugubre*. *Ovatum, nigrum, elytris punctato-striatis, interstitiis sublævibus, apice pedibusque rufo-piceis.* (Long. corp. $\frac{5}{8}$ — $\frac{1}{2}$ lin.)

Sp. *lugubre*. *Fabricius*.—Ce. *lugubre*. *Steph. Catal. p. 64. No. 66.*

Very minute: ovate, black; head immaculate: thorax with the lateral margins obsoletely piceous: elytra shining pitchy-black, the apex more or less rufescent; convex, punctate-striated, the interstices nearly smooth: legs, palpi, and antennæ dull pitchy-red.

Closely allied to the foregoing, but smaller, and differs in having the legs of a darker hue, and the punctures on the elytra fainter, with the striæ more distinct. It must not be confounded with the *Dermestes lugubris* of Marsham, which is many times larger.

Inhabits the same counties as the last.

Sp. 42. *minutum*. *Ovatum, nigrum, elytris tenuè punctato-striatis, apice lævibus piceis, interstitiis sublævibus, pedibus concoloribus.* (Long. corp. $\frac{1}{5}$ — $\frac{3}{8}$ lin.)

Sp. *minutum*. *Fabricius*.—Ce. *minutum*. *Steph. Catal. p. 64. No. 668.*

Ovate, black; head and thorax immaculate: elytra faintly punctate-striated, the apex smooth and pitchy, the interstices nearly smooth: legs pitchy or deep black; sometimes rufescent.

Rather larger than the last, and the legs generally concolorous with the body:—



the specimens with paler legs generally having the prevalent colour pitchy-black or somewhat castaneous, and are probably immature.

Common throughout the metropolitan district.

Sp. 43. obscurum. *Ovatum, obscuro-piceum, margine thoracis elytrorumque apicibus rufis, pedibus piceis.* (Long. corp. $\frac{1}{2}$ lin.)

De. obscurus. *Marsham.*—Ce. obscurum. *Steph. Catal. p. 64. No. 669.*

Ovate; dull piceous, glossy: head pitchy: thorax piceous, the margin rufous; elytra rather flat, very obsoletely striated, piceous, with the apex rufous: legs piceous: palpi dusky: antennæ pale rufous, with the club of a deeper hue.

The rufescent margin of the thorax, bright rufous apex to the elytra, which are most obscurely striated, and dull-pitchy colour, distinguish this species. Its habit is very dissimilar to that of the rest of the genus.

From the Marshamian collection.

Sp. 44. contaminatum. *Ovatum, convexum, piceo-nigrum, elytris obsoletissime striatis castaneis, apice pallidiore.* (Long. corp. $\frac{7}{8}$ lin.)

Sp. contaminatum. *Kirby MSS.*—Ce. contaminatum. *Steph. Catal. p. 64. No. 670.*

Ovate, very convex, slightly attenuated behind: head pitchy-black, immaculate: thorax rather glossy, pitchy-black, with the lateral margins obscurely rufous anteriorly: elytra very obsoletely striated, the interstices impunctate, deep pitchy chestnut, with the apex slightly paler: legs, antennæ, and palpi rufo-castaneous.

The ovate, slightly attenuated posterior extremity of this minute convex species, with its deep pitchy colour, and castaneous obscurely striated elytra, discriminate this insect from its congeners.

Taken near London, and in Suffolk: also I believe in Norfolk.

Sp. 45. concinnum. *Ovatum, atrum, nitidum, thoracis margine elytrisq. piceo-testaceis, pedibus rufis.* (Long. corp. $\frac{3}{4}$ — $\frac{3}{4}$ lin.)

De. concinnum. *Marsham.*—Ce. concinnum. *Steph. Catal. p. 64. No. 671.*

Ovate, shining: head black, immaculate: thorax black, with its anterior and lateral margins testaceous: elytra deep pitchy-testaceous, rather faintly punctate-striated; the interstices impunctate: legs rufous: antennæ and palpi the same.

Closely allied to the last, but rather larger; the black head, coloured margins of the thorax and pitchy-testaceous elytra, however, sufficiently distinguish it therefrom.

Occasionally found near London; in Norfolk and Suffolk.

Sp. 46. ferrugineum. *Ovatum, nitidum, saturate rufo-ferrugineum, immaculatum.* (Long. corp. $\frac{3}{4}$ —1 lin.)

De. ferrugineus. *Marsham.*—Ce. ferrugineum. *Steph. Catal. p. 64. No. 672.*



Larger than the preceding: ovate; glossy, entirely of a deep rusty-red: elytra punctate-striated, immaculate: legs, antennæ, and palpi paler testaceous-red. Known by its ovate form, deep immaculate ferruginous colour, and rather greater bulk, from the preceding species.

One of my specimens was contained in the Marshamian cabinet, the others were taken near London.

Sp. 47. *stercorarium*. *Ovatum, convexum, atrum, nitidum, antennis pedibusque rufis*. (Long. corp. $\frac{2}{3}$ — $\frac{3}{4}$ lin.)

De. *stercorarium*. *Marsham*.—Ce. *stercorarium*. *Steph. Catal. p. 64. No. 673.*

Ovate, very convex, deep glossy-black: head and thorax immaculate: elytra gibbous, faintly punctate-striated, the interstices punctate, deep black, with the apex concolorous: legs, antennæ, and palpi rufous.

This differs from the three last-mentioned insects, by its smaller size, more elongate form, and deep-coloured elytra.

Not uncommon near London: also found in Norfolk, Suffolk, Devonshire, &c.

Sp. 48. *fuscescens*. *Oblongo-ovatum, subdepressum, piceo-nigrum, nitidiusculum, elytris fusciscentibus, tenuè punctato-striatis, pedibus pallidis*. (Long. corp. $\frac{1}{2}$ lin.)

Ce. *fuscescens mihi*.—*Steph. Catal. p. 64. No. 674.*

Obong-ovate, slightly depressed, and shining: head black: thorax pitchy-black, the margin broadly testaceous: elytra somewhat fusciscent, the outer margin rather piceous, the apex pallid, faintly striate, the striae punctate: the interstices impunctate: antennæ, palpi, and legs pale.

The oblong depressed form and pallid hue of this insect are the chief characters which distinguish this from the other minute dark-coloured species.

I found this insect near London several years since.

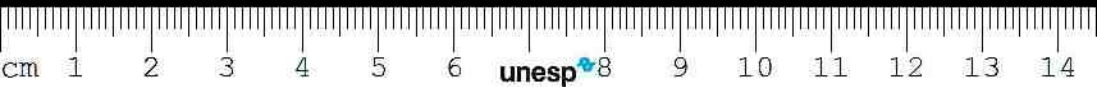
Sp. 49. *immundum*. *Ovatum, convexum, latum, nitidum, castaneo-brunneum, thoracis marginibus pallidioribus, elytris striatis, interstitiis obsoletissime transversim strigosis*. (Long. corp. $\frac{1}{2}$ — $\frac{3}{4}$ lin.)

Sp. *immundum*. *Sturm*.—Ce. *immundum*. *Steph. Catal. p. 64. No. 675.*

Ovate, convex, broad, glossy chestnut-brown; with the margins of the thorax pale: elytra rather paler, immaculate, faintly striated, the interstices under a powerful glass appearing very obsoletely striated transversely: antennæ, legs, and palpi pale rufo-castaneous.

The transverse striae on the elytra, which can only be observed by a powerful lens, sufficiently characterize this species.

The only indigenous example I have hitherto seen was in the Marshamian collection unnamed. Its locality is unknown to me.



Sp. 50. *nigriceps*. *Ovatum, atrum, nitidum, thoracis lateribus, antennis, elytris, pedibusque rufo-ferrugineis*. (Long. corp. $\frac{3}{4}$ lin.)

De. *nigriceps*. *Marsham*.—Ce. *nigriceps*. *Steph. Catal. p. 65. No. 676*.

Ovate, shining: head black, immaculate; thorax with the disc black, the sides piceous or rufo-ferruginous: elytra pale ferruginous, obsoletely punctate-striated, the interstices convex: body deep black beneath: antennæ and legs ferruginous: palpi luteous.

The black patch on the disc of the thorax, and the pale ferruginous elytra and legs, at once distinguish this from the following species.

Two specimens of this insect I procured from the Marshamian collection: of their locality I am ignorant.

Sp. 51. *atricapillum*. *Ovatum, nitidum, rufo-testaceum, capite piceo, elytris testaceis, obsolete striatis, antennis pedibusque pallide testaceis*. (Long. corp. $\frac{3}{4}$ lin.)

De. *atricapillus*. *Marsham*.—Ce. *atricapillum*. *Steph. Catal. p. 65. No. 677*.

Ovate, glossy: head pitchy-black: thorax bright rufo-testaceous: elytra pale testaceous, very obsoletely striated: abdomen rufo-testaceous beneath; antennæ and legs pale testaceous; the club of the former dusky.

This differs from the preceding by having the disc of the thorax immaculate, and from the following by the paler hue of the head and its slightly dissimilar form.

Also obtained from the Marshamian cabinet, without a knowledge of its exact locality.

Sp. 52. *atriceps*. *Ovatum, nitidum, piceum, capite atro, elytris rufo-testaceis striatis, antennis pedibusque rufo-luteis*. (Long. corp. $\frac{1}{2}$ lin.)

Sp. *atriceps*. *Kirby MSS*.—Ce. *atriceps*. *Steph. Catal. p. 65. No. 678*.

Ovate, shining, pitchy: head black: thorax bright glossy pitchy: elytra rufo-testaceous, rather deeply punctate-striated, the interstices rounded and obsoletely punctulated: antennæ, legs, and palpi of a reddish-luteous.

Differs from Ce. *atricapillum* by the deeper colour of the head and thorax, the rufescent deeply striated elytra, and pale capitulum of the antennæ. It is not unlikely that this and the two foregoing insects may be the same species in different degrees of maturity.

Taken near Barham, where I had the pleasure of capturing my specimen in September, 1821, when on a visit to my kind friend the Rev. W. Kirby for the purpose of examining his collection, &c.; and taking notes for this work and my Catalogue.

Sp. 53. *læve*. *Ovatum, castaneum, nitidiusculum, elytris punctato-striatis*. (Long. corp. $\frac{7}{10}$ lin.)

De. *lævis*. *Marsham*.—Ce. *læve*. *Steph. Catal. p. 65. No. 679*.

Ovate, slightly shining: of a deep castaneous, with the head nearly black:



elytra punctate-striated; the interstices slightly elevated and smooth: antennæ, legs, and palpi pale castaneous.

Rather larger than the last, narrower, and the prevalent colour of a deeper hue; the elytra faintly clouded with dusky, with smooth interstices between the striae.

The Marshamian specimen is the only one I have examined: its locality is unknown to me.

Sp. 54. testaceum. *Ovatum, corpore omnino piceo-testaceo capite saturatiore, antennarum capitulo fusco, elytris obsolete striatis.* (Long. corp. $\frac{1}{2}$ lin.)

Sp. testaceum. *Kirby MSS.*—Ce. testaceum. *Steph. Catal. p. 65. No. 680.*

Minute, ovate; slightly glossy: the entire body deep pitchy-testaceous, with the head rather darker: the elytra obsoletely striated: the legs and palpi testaceous, the base of the antennæ the same, the capitulum fuscous.

The fuscous capitulum of the antennæ of this minute insect, and its deep testaceous colour, are its principal distinctive characters.

Found in Suffolk and Norfolk.

Sp. 55. inustum. *Ovatum, nigrum, nitidum, coleoptris striatis testaceis, maculis tribus fuscis, pedibus testaceis.* (Long. corp. 1 lin.)

De. inustus. *Marsham.*—Ce. inustum. *Steph. Catal. p. 65. No. 681.*

Ovate, shining: head black, immaculate: thorax black, with the margins rufous: elytra striated, testaceous, with a triangular common brown patch at the base, and a large brown spot on each elytra near the apex: legs and antennæ testaceous.

From the Marshamian cabinet: also taken near London.—
“South Creak, Norfolk.”—*Rev. T. Skrimshire.*

Sp. 56. ustulatum. *Oblongo-ovatum, nigrum, nitidum, coleoptris striatis testaceis nebula postica ustulata.* (Long. corp. 1 lin.)

Sp. ustulatum. *Kirby MSS.*—Ce. ustulatum. *Steph. Catal. p. 65. No. 682.*

Oblong-ovate, shining black, head and thorax immaculate; elytra striated, testaceous, each with an ustulated cloud towards the apex: legs pitchy-black: antennæ testaceous.

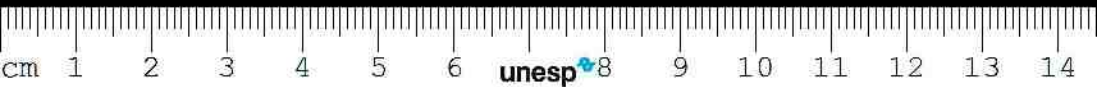
This differs from Ce. inustum by having the margins of the thorax concolorous; and from Ce. bimaculatum by the difference of the position and the form of the maculations on the elytra, which are irregularly defined in this species.

Found in Suffolk.

Sp. 57. bimaculatum. *Oblongo-ovatum, nigrum, nitidum, coleoptris striatis testaceis, maculis duabus fuscis pone mediam.* (Long. corp. 1 lin.)

Ce. bimaculatum *mihi.*—*Steph. Catal. p. 65. No. 683.*

Oblong-obvate, shining: head black, immaculate: thorax black, very glossy, the lateral margins concolorous: elytra testaceous, striated, the interstices



slightly convex and faintly punctulated, each with a deep round brown spot near the suture towards the apex : body deep pitchy-black beneath : legs black : antennæ and palpi pale testaceous.

The two distinct spots on the elytra and concolorous lateral margin of the thorax sufficiently distinguish this from *Ce. quisquilius* ; as the former character does from *Ce. ustulatum*.

Taken near London.

Sp. 58. *quisquilius*. *Oblongo-ovatum, nigrum, nitidum, thoracis lateribus elytris striatis pedibusque pallidis : fœmina elytris maculâ communi cordatâ nigrâ.* (Long. corp. $\frac{3}{4}$ — $1\frac{1}{4}$ lin.)

Scar. *quisquilius*. Linne.—*Ce. quisquilius*. Steph. Catal. p. 65. No. 684.

Oblong-ovate: head convex, punctulated, black, immaculate: thorax thickly punctate, black, with the lateral margins very narrowly pale in the male, and broadly so in the female: elytra distinctly, but rather faintly, punctate-striated, the interstices thickly but finely punctulated, pale luteous, immaculate in the male, and with a large common subcordate patch on the suture a little beyond the middle in the female: body pitchy-black beneath: legs pale ferruginous. The male is also much smaller and considerably narrower.

Linnaeus in his latest work places the sexes of this insect in different genera!—Upon this point see observations in the introduction to my Catalogue.

Extremely abundant in the spring throughout the metropolitan district; flying abroad in roads, paths, and meadows, towards afternoon every sunny day.

Sp. 59. *flavum*. *Oblongo-ovatum, atrum, glabrum, thoracis lateribus elytrisque pedibus luteis.* (Long. corp. $1\frac{1}{2}$ lin.)

De. *flavus*. Marsham.—*Ce. flavum*. Steph. Catal. p. 65. No. 685.

Oblong-ovate, glossy; head black, immaculate: thorax black, very shining, the lateral margins broadly luteous: elytra punctate-striated, pale spotless luteous: legs, antennæ, and palpi pale-testaceous.

As large as the female of *Ce. quisquilius*, but without the sutural black patch, and with the lateral margins of the thorax broadly luteous. It is not unlikely to prove a variety of the female of the foregoing insect, without the patch.

Found near London, flying in May.

Sp. 60. *scutellare*. *Brevè-ovatum, subnitidum, capite thoraceque nigris, elytris testaceis, maculâ baseos communi elongato-triangulari nigrâ.* (Long. corp. $\frac{1}{2}$ lin.)

Ce. scutellare mihi.—Steph. Catal. p. 65. No. 686.

Minute: short, ovate, slightly glossy: head and thorax black, immaculate: elytra pale-testaceous, with an elongate-triangular black spot at the base on the suture common to both elytra; the latter punctate-striated; the legs, palpi, and antennæ pale luteous, the club of the latter dusky.

The black patch at the base of the suture, concolorous lateral margins to the thorax, and minute size, distinguish this from the rest of the genus.

Taken near London.

GENUS CVI.—SPHÆRIDIMUM, *Fabricius*.

Maxillary palpi four-jointed, the basal joint minute, the following robust, incrassated at the apex, the third and fourth of nearly equal length, the former being slightly clavate, and the latter a little acuminate. *Antennæ* rather slender at the base, the four terminal joints forming a somewhat abrupt compact club: *head* orbiculate, rounded anteriorly: *body* slightly convex: *scutellum* elongated: *elytra* not striated: *wings* ample: *legs* rather stout: *tibiæ* very spinose, with powerful spurs at the apex: *tarsi* rather slender, the anterior with the terminal joint dilated in the male.

Sphæridium, as at present restricted, contains such insects only as have the *tibiæ* very strongly compressed and furnished with powerful spines, the body very broad and considerably depressed, the *elytra* not striated, and the club of the *antennæ* somewhat elongate. The species regard the dung of oxen in preference to that of horses, although occasionally found in the latter; thus differing in habit from the *Cercya*, which affect the latter in preference to the former. Like the insects of the preceding genus, the species, which are extremely variable, considerably resemble each other; and in describing the following as distinct, I cannot but remark, that, although some of them rest upon doubtful points, it appears to me that modern writers have fallen into the error of confounding a genus consisting of variable individuals with a species.

Sp. 1. *scarabæoides*. *Atrum, nitidum, thoracis margine concolore, elytris macula humerali rubro-sanguineâ apicis flavescente.* (Long. corp. 3—3½ lin.)

De. *scarabæoides*. *Linne?*—*Don. vii. pl. 231. f. 4.*—*Sp. scarabæoides. Steph. Catal. p. 65. No. 687.*

The largest species of the genus: deep-black, shining; the entire surface finely and thickly punctulated: head immaculate: thorax black, with the lateral margins concolorous: *elytra* with a single stria near the suture, anteriorly evanescent, each at the base with an oblique acuminate deep-red spot at the shoulder, and a large transverse yellowish one at the apex: legs black, variegated with testaceous: spines black.

In some specimens the spot at the shoulder of the *elytra* is nearly evanescent, and in others the apical one is nearly obliterated; the margin of the *elytra* has sometimes a narrow anteriorly abbreviated luteous streak.

Marshall's *De. Scarabæoides* differs by having the margins of the thorax flavescens.

Very abundant in cow-dung throughout the metropolitan district: also found in plenty in Devonshire, Norfolk and Suffolk, and near Swansea and Bristol. "Netley."—*Rev. F. W. Hope*.

Sp. 2. *bipustulatum*. *Atrum, nitidum, elytris macula humerali rubra obsolete, apicis rubescente lunata, pedibus piceis*. (Long. corp. $2\frac{1}{2}$ —3 lin.)

Sp. *bipustulatum*. *Fabricius*.—*Steph. Catal. p. 65. No. 688*.

Deep shining black; finely punctulated; head and thorax immaculate: elytra with a more or less obsolete rounded humeral reddish spot, and an obscure paler lunate one at the apex, the suture with a single abbreviated stria: legs piceous, with the base of the femora testaceous.

Rather less than the last; from which it differs in having the humeral spot nearly evanescent, the apical one reddish, and the legs piceous.

This is also very common in the neighbourhood of London, and I believe in Norfolk, Suffolk, Devonshire, &c.

Sp. 3. *quadrinaculatum*. *Niger, nitidum, thoracis elytrorumque margine luteo-testaceis pedibus testaceis, femoribus macula nigra*. (Long. corp. $2\frac{3}{4}$ lin.)

De. quadrinaculatus. *Marshall*.—Sp. 4. *maculatum*. *Steph. Catal. p. 66. No. 689*.

Glossy-black, finely punctured: head immaculate: thorax with the lateral margin narrowly edged with pale luteous-testaceous; elytra with the outer margin testaceous-yellow, each with a round pale-red spot at the base and another at the apex, and an obsolete stria near the suture: legs testaceous, with a black spot on the femora.

Smaller than the last, with the margins of the thorax pallid and the apical spot on the elytra distinct.

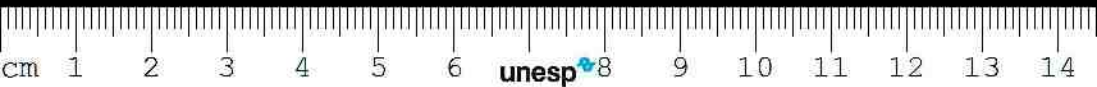
Less common than the preceding species, though far from rare throughout the metropolitan district; on Hampstead-heath, Copenhagen-fields, &c.

Sp. 4. *lunulatum*. *Atrum nitidum, thoracis margine luteo-testaceo, elytris lunula apicali flavo-testacea, pedibus testaceis, femoribus macula nigra*. (Long. corp. $1\frac{3}{4}$ lin.)

Sp. *lunulatum*. *Kirby MSS.*—*Steph. Catal. p. 66. No. 690*.

A small species: shining black, punctulated; head immaculate: thorax with its lateral margins very narrowly luteous-testaceous: elytra with the outer margin slightly edged with reddish towards the apex, the apex itself with a testaceous-yellow lunule: legs testaceous; femora with a black spot.

The small size, narrow coloured edge of the thorax, spotted tip, and absence of the humeral spot on the elytra, and concolorous outer base of the latter, distinguish this from *Sp. marginatum*, which it most resembles.



I obtained this species from the Marshamian cabinet by the above name. I have, however, taken the insect myself, but the exact locality I do not remember.

Sp. 5. *lunatum*. *Atrum nitidum, thoracis margine concolore, elytris macula apicis lunata margineque exteriore rubris.* (Long. corp. $2\frac{1}{2}$ — $2\frac{3}{4}$ lin.)

Sp. *lunatum*. *Fabricius?*—*Steph. Catal. p. 66. No. 691.*

Less than *Sc. Scarabæoides*: deep shining black: head and thorax immaculate above, with a large testaceous spot on each side beneath: elytra with a faint sutural stria, a lunate spot at the apex, and the outer margin red: legs piceous, femora clouded with black.

Differs from *Sp. bipustulatum* by wanting the humeral spot entirely, and having the exterior margin of the elytra testaceous: the legs piceous, with the femora clouded with black.

Not uncommon near London, at Hertford, Ripley, &c.; also found near Swansea, and Bristol, in Devonshire, Norfolk, Suffolk, &c.

Sp. 6. *marginatum*. *Atrum nitidum, thoracis elytrorumque margine flavo-testaceis, pedibus ferrugineis, femoribus fascia nigra.* (Long. corp. 2— $2\frac{1}{4}$ lin.)

Sp. *marginatum*. *Fabricius.*—*Steph. Catal. p. 66. No. 692.*

Shining black, finely punctured: head immaculate: thorax, with the outer margin narrowly edged with testaceous-yellow: elytra immaculate, with the lateral margin slightly bordered with yellowish, or luteous: legs ferruginous, with a black fascia on the femora.

Closely allied to *Sp. quadrimaculatum*, but differs in having the elytra spotless, the exterior margin alone being slightly flavescent.

Also frequent near London, but less so than *Sc. bipustulatum*.

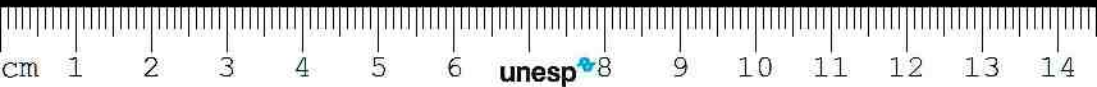
Sp. 7. *Daltoni*. *Atrum nitidum, thoracis margine concolore, elytris immaculatis, margine exteriore versus apicem rufescente.* (Long. corp. 2 lin.)

Sp. *Daltoni*. *Kirby MSS.*—*Steph. Catal. p. 66. No. 693.*

Shining black, head and thorax immaculate: elytra immaculate, with the outer margin slightly edged with reddish towards the tip: legs piceous, femora with a black patch.

The inferior size, and totally immaculate elytra, with the concolorous outer margin to the thorax, well distinguish this insect from its congeners.

Found in Yorkshire, but not, I believe, near London: one of my specimens was in the Marshamian collection by the above name. The insect appears distinct from its congeners.

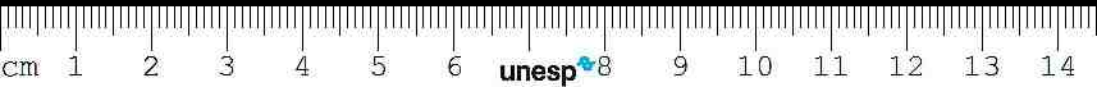


FAMILY XVI. ANISOTOMIDÆ *mihi*.

Antennæ usually moniliform, somewhat elongate, rather slender at the base, and in general gradually thickening to the apex, the terminal joint forming an elongate club, varying in the number of its articulations. *Palpi* various, usually filiform, not elongated: *head* usually small, ovate: *thorax* more or less gibbous: *body* mostly convex, orbicular, short, sometimes globose, never linear: *elytra* entire, rarely truncate: *tibiæ* spinose or simple, occasionally compressed: *tarsi* various, rarely pentamerous, most frequently tetramerous; sometimes heteromerous, the four anterior being five-jointed, and the posterior four-jointed, or monomerous?

This family not only exhibits a remarkable example of the importance of selecting characters from every part, but clearly shows the great disadvantage resulting from an adherence to such characters as are derived from particular organs, and especially from the number of joints of the tarsi; as amongst the following genera we find heteromerous, tetramerous, and monomerous? insects; which has induced Latreille and the advocates for the tarsal system to place them far apart, in the so-called natural arrangement, notwithstanding they are so closely allied in habit and in general structure. They all have the antennæ somewhat elongated, and more or less clavate, the clava varying in the number of joints of which it is composed, and the eighth joint of the antennæ from the base is frequently minute, especially in the typical genera; a structure which also obtains in some of the insects at the commencement of the next subsection. The trophi vary somewhat in the different genera; but as many of the species are extremely minute, slight notice has been taken of such distinctions in the following pages, as they cannot be discriminated without the aid of the microscope, and although highly important for the purposes of generalization, little *practical utility* can result from such investigations: and, moreover, external characters, which, it has been well observed, necessarily exhibit a corresponding difference in internal organization, can be detected with greater facility, and are consequently more useful for the investigation of species.

The usual pabulum of these insects consists of decaying vegetable matter, usually fungi, boleti, agarici, and similar plants, though some of them are found upon flowers;—the indigenous genera which have come beneath my observation may be thus known.



GENUS CVII.—TRITOMA, *Fabricius*.

Maxillary palpi with the last joint large, transverse, compressed, lunate ; *labial* subclavate ; *maxilla* with a minute tooth at the apex. *Antennæ* short, moniliform, with an ovate perfoliated three-jointed club ; head subtriangular : *thorax* elevated in the middle behind : *body* gibbous : *elytra* ovate, attenuated behind, convex : *legs* moderate ; *tibiæ* compressed, broad, elongate-triangular, not spinose ; *tarsi* four-jointed, the penultimate joint bifid.

The short, ovate, 3-jointed, obtuse club of the antennæ, slightly gibbous body, and lunate terminal joint of the palpi, distinguish this genus from *Phalacrus* and *Ephistemus*, with which it agrees in having the penultimate joint of the tarsi bifid : and by this last character it is known from all the other genera in this family, with which however it ill associates. One species only inhabits Britain : its larva is not known to me.

Sp. 1. *bipustulatum*. *Nigrum, nitidum, elytris, maculâ laterali baseos angulatâ coccineâ, pedibus nigris, tarsis rubris*. (Long. corp. $1\frac{3}{4}$ — $2\frac{1}{2}$ lin.)

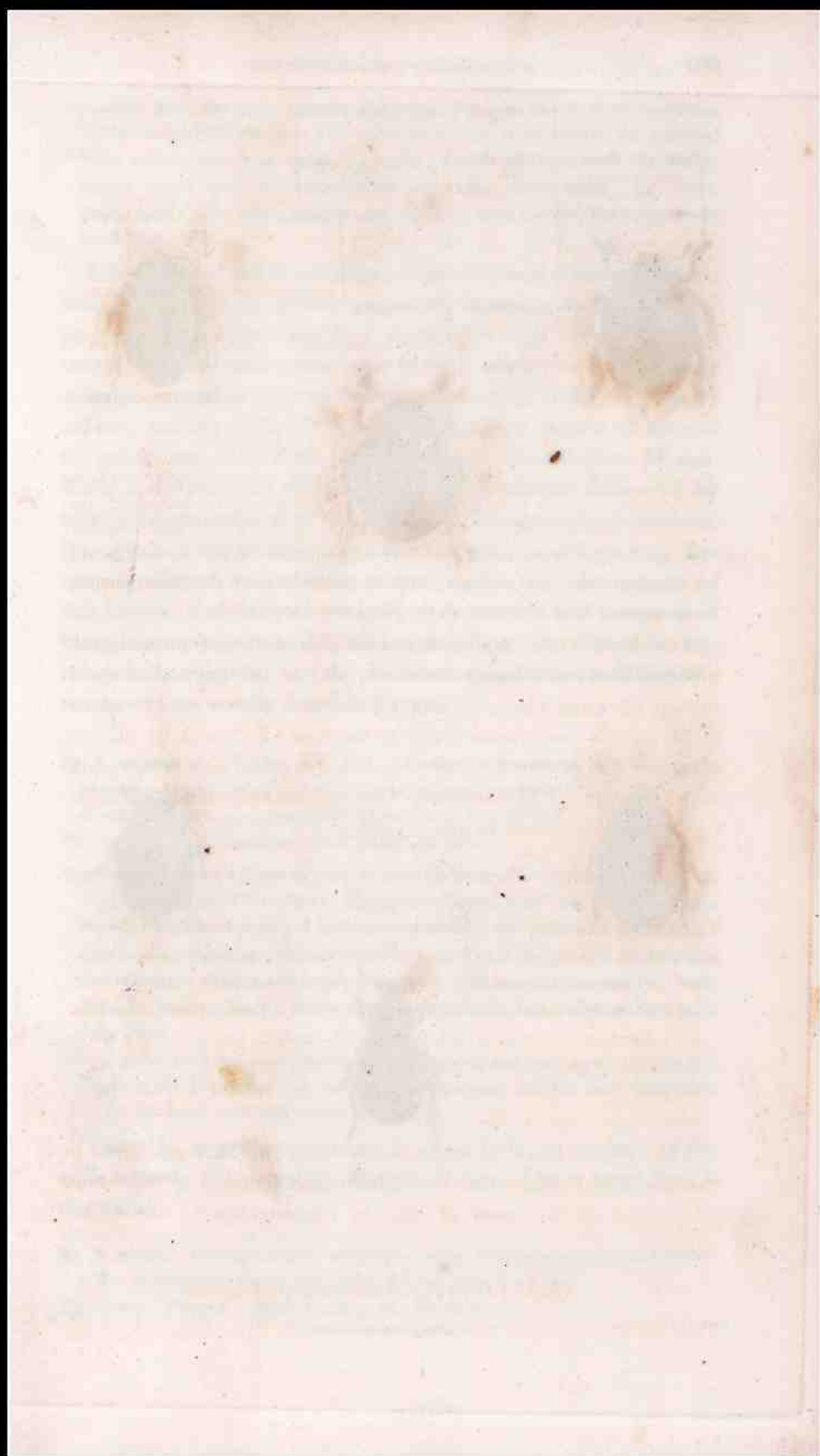
Tr. *bipustulatum*. *Fabricius*.—*Samouelle*, pl. 2. f. 9. *Steph. Catal.* p. 66. No. 694.

Size variable : black, shining : head deeply punctate ; mouth piceous : thorax slightly narrowed anteriorly, the sides margined, posteriorly dilated in the middle, the disc punctured : elytra very glossy-black, faintly punctate-striated, the interstices punctulated, each with a large quadrate bright red spot on the outer basal angle, frequently marked with a dusky spot on the shoulder : body beneath glossy-black, punctate : legs black : tarsi rufous : antennæ rufous, with the club dusky or black.

This pretty insect is occasionally taken in May and June in Coombe and Darenth woods :—I have also found it at the former place, and at the roots of oaks in Richmond-park, during the winter.

GENUS CVIII.—PHALACRUS, *Paykul*.

Palpi filiform ; *maxillary* with the terminal joint elongate ; *labial* very short :





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maxillæ with the apex strongly bidentate: *Antennæ* rather slender, distant at the base, a little elongate, the capitulum oblong, tri-articulate, the terminal joint ovate-conic: *head* small, triangular: *thorax* gibbous, with the hinder angles ovate: *body* hemispheric-ovate, or ovate: *elytra* entire: *legs* short, compressed; *tibiæ* short, straight, not spinous; *tarsi* slender, the penultimate joint bifid.

Like *Cercyon*, and in fact most genera composed of minute species, this genus has been greatly neglected, especially in Britain; few persons, until lately, troubling themselves with collecting other than a few of the more remarkable or finely coloured species: by the valuable assistance derived from the possession of Mr. Marsham's cabinet, and the authentic specimens contained therein of his and the species named by those justly celebrated entomologists, Messrs. Kirby and Spence, as well as from other specimens discovered by myself, I hope in this as in other genera to introduce many novelties. The *Phalacri* are usually rather brilliant insects, and are very frequently adorned with metallic colours, unlike the other genera of this family: their body is generally very convex, and incapable of being contracted into a ball, as in *Agathidium*; the club of the antennæ is three-jointed, and the penultimate joint of the tarsi bilobed: the species are mostly found in flowers.

Sp. 1. *maritimus*. PLATE XV. f. 1. *Ovatus, nigro-æneus, nitidus, capite lævissimo lineâ frontali exarata, elytris profundè punctato-striatis, interstitiis thoracisque disco vagè punctatis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{1}{8}$ lin.)

Ph. *maritimus mihi*.—*Steph. Catal. p. 67. No. 695.*

The largest species of the genus: of a deep brassy-black; head impunctate, with an impressed line down the front: *thorax* with the anterior angles smooth, the disc thickly and irregularly punctate, the punctures rather deep: *elytra* rather deeply punctate-striated, the sutural stria oblique and abbreviated, the interstices thickly and deeply punctured, with irregular impressions: *body* beneath shining black; *breast* deeply punctured; *legs*, *antennæ*, and *palpi* deep black.

The superior bulk and deep jet-black legs, antennæ, and palpi, with the size and depth of the impressions in the *thorax* and *elytra*, and the deep excavation in the forehead, well distinguish the species.

Taken by myself in profusion in June, 1819, at the base of the cliffs between Dover and St. Margaret's Bay: I have never seen it elsewhere.

Sp. 2. *æneus. Oblongo-ovatus, virescenti-æneus, nitidissimus, posteriùs angustatus, subtus piceis elytris bistriatis.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Ph. *æneus. Paykul.*—*Steph. Catal. p. 67. No. 696.*



Oblong-ovate, greenish-brass: head very glossy, smooth; mouth pitchy: thorax very shining and extremely smooth: elytra as broad as the thorax at the base, slightly attenuated posteriorly, moderately convex, very glossy, with two rather faint striæ towards the suture, which do not reach to the base; body and thorax beneath deep pitchy-black: legs stout, pitchy-black or brownish: antennæ ferruginous at the base, dusky or black at the apex.

The brilliant greenish-brass colour and bistriated elytra distinguish this species.

Very abundant in hedges in the neighbourhood of London, especially in the spring: found in the winter, beneath moss, &c. occasionally, and sometimes in the autumn.

Sp. 3. ovatus. *Oblongo-ovatus, nigro-æneus politus, posterius attenuatus, elytris obsoletissime striatis.* (Long. corp. $\frac{3}{4}$ lin.)

Der. ovatus. Marsham.—Ph. ovatus. Steph. Catal. p. 67. No. 697.

Oblong-ovate, deep very shining brassy-black: head very smooth: thorax obscurely punctured: elytra as broad as the thorax at the base, the apex greatly attenuated, with two deep striæ parallel with the suture, and several faint ones on the rest of the surface, the interstices finely punctured: antennæ, palpi, and legs piceous.

Differs from the last in being more attenuated behind* and smaller,* with the elytra faintly striated throughout, and the interstices between the striæ being punctured.

Not uncommon near London.

Sp. 4. cognatus. *Æneo-niger, nitidus, ovatus, postice haud attenuatus, elytris obsoletissime striatis.* (Long. corp. $\frac{3}{4}$ lin.)

Ph. cognatus mihi.—Steph. Catal. p. 67. No. 698.

Ovate, not attenuated posteriorly: glossy shining brassy-black: head and thorax impunctate: elytra faintly punctate-striated, the two striæ nearest the suture deepest, the interstices punctured: legs, antennæ, and palpi black.

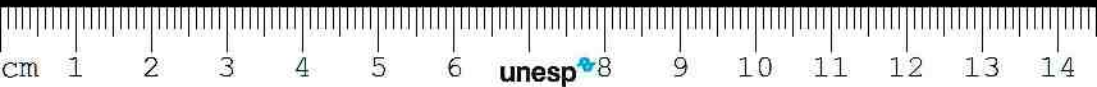
The dissimilar form and deep brassy-black hue distinguish this from the foregoing, of which it is not very unlikely that it may prove to be a variety of the female.

My specimens were taken near London.

Sp. 5. corticalis. *Oblongo-ovatus, piceo-testaceus, glaberrimus, capite, thorace marginibusque elytrorum saturatoribus, elytris bistriatis.* (Long. corp. $1-1\frac{1}{4}$ lin.)

Ph. corticalis. Illiger.—Steph. Catal. p. 67. No. 699.

Oblong-ovate, above entirely of a pitchy-testaceous, with the head, thorax, and suture, apex, and lateral margins of the elytra, of a deeper, or pitchy-black, tinge: eyes black: antennæ rufescent: the disc of the elytra is slightly punctulated, and near the suture are two abbreviated rather faint striæ; the body beneath and legs are pale pitchy-testaceous. The colours vary considerably, but all the varieties of the insect may be known by the characters above given, as the other species of the genus are of darker colours.



Extremely abundant throughout the metropolitan district, during the greater portion of the year, but most so in the autumn. "Rivestone-wood, near Edinburgh, under the bark of firs, in the winter."
—*Dr. Leach.*

Sp. 6. *coruscus*. *Brevior ovatus, valde convexus, niger, nitidissimus, elytris lævibus, ad suturam unistriatis, pedibus nigris.* (Long. corp. 1—1½ lin.)

Ph. *coruscus*. *Paykul.*—*Steph. Catal. p. 67. No. 701.*

Short, ovate, very convex, very glossy black: head very obscurely punctured: thorax very convex, the disc most obsoletely punctured: elytra scarcely punctulated, very convex, with an impressed stria on each near the suture, abbreviated anteriorly, head pitchy-black beneath, scarcely punctate: legs black; clothed with ashy-down: antennæ black, with the terminal joint rather elongated and very acute.

The deep black colour, smooth elytra, with a single stria on each, and very acutely terminated antennæ, distinguish this from the following species.

Far from uncommon on flowers in the neighbourhood of London.
"On the flowers of *Ranunculi*, in Devonshire."—*Dr. Leach.*

Sp. 7. *picipes*. *Brevior ovatus, convexus, niger, nitidissimus, elytris lævissimis, striâ suturali unicâ, pedibus piceis.* (Long. corp. 1 lin.)

Ph. *picipes*. *Kirby? MSS.*—*Steph. Catal. p. 67. No. 702.*

Less than the last: short, ovate, convex, black, very shining, head and thorax as in Ph. *coruscus*: elytra very smooth, with a single sutural stria, not abbreviated at the base: legs and antennæ pitchy-black, the former palest.

I obtained this insect by the above name from Mr. Marsham's cabinet: it may not possibly be more than a variety of the foregoing, with the legs paler, and the sutural striæ rather deeper and longer than usual.

The locality is unknown to me, although I have captured the insect myself.

Sp. 8. *substriatus*. *Brevior ovatus, valde convexus, niger, nitidissimus, elytris obsolete punctato-striatis.* (Long. corp. 1 lin.)

Ph. *substriatus*. *Gyllenhal.*—*Steph. Catal. p. 67. No. 703.*

Short, ovate, very convex, deep glossy black; head and thorax as in Ph. *coruscus*: elytra impunctate, obsoletely but regularly punctate-striated, the striæ anteriorly vanishing: body beneath and legs pitchy-black, the latter with an ashy pubescence: antennæ black, with the terminal joint rather large, narrower towards the apex, and somewhat obtuse.

The comparative obtuseness of the antennæ and obsoletely striated elytra at once discriminate this from Ph. *coruscus*.

Found near London, and in Suffolk: also in Glamorganshire and Norfolk.

Sp. 9. *nigrinus*. *Subelongatus, depressiusculus, subæneo-niger, paulò nitidus, elytris obsolete uni-striatis, pedibus nigris*. (Long. corp. 1 lin.)

Ph. *nigrinus mihi*.—*Steph. Catal. p. 67. No. 704.*

Rather elongated and depressed; black, slightly shining, and a little tinged with æneous: head and thorax impunctate: elytra with a very obsolete stria near the suture, the rest of the surface impunctate: legs black.

The elongated, slightly depressed, and somewhat opaque colour, with a brassy tinge, distinguish this from the preceding insect. Two specimens of this insect were placed with *Dermestes nigrinus* of Marsham, above described under the name of *Cercyon nigrinum*, in his cabinet.—*Vide page 146.*

Taken near London; in the New Forest, and near Swansea.

Sp. 10. *Caricis*. *Ovatus, depressiusculus, aterrimus, elytris obsolete punctato-striatis*. (Long. corp. $\frac{3}{4}$ —1 lin.)

Ph. *Caricis*. *Sturm?* *Steph. Catal. p. 67. No. 705.*

Ovate, slightly depressed, rather obtuse behind: very deep shining black: head and thorax impunctate: elytra obsoletely striated, the striæ composed of delicate impressed points: body beneath, legs, and antennæ deep black.

The ovate obtuse form of this species at once distinguishes it from the foregoing; from the following it differs in being rather more depressed, and in the sculpture of the elytra.

Frequent throughout the metropolitan district, especially in places where *Carices* abound. “On *Carex acutus*, in Devonshire.”—*Dr. Leach.*

Sp. 11. *Millefolii*. *Brevior ovatus, paulò convexus, niger, nitidus, subtilius piceus, elytris subtilissime, et crebrè, punctato-striatis*. (Long. corp. $\frac{3}{4}$ —1 $\frac{1}{4}$ lin.)

Ph. *Millefolii*. *Paykul?*—*Steph. Catal. p. 67. No. 706.*

Oblong-ovate, slightly convex, deep glossy black: head and thorax impunctate: elytra very slightly attenuated behind, finely punctate-striated, the punctures rather deep: body beneath and legs pitchy-black: antennæ black, with the terminal joint not very acute.

Var. β . *Steph. Catal. l. c.*—Body beneath pitchy-black, with the antennæ piceous.

Shorter, broader, and more obtuse behind than the last, of a deeper hue, and more convex and strongly punctulated.

Found in the flowers of the *Achillea Millefolium*: not common. “In sandy places near Halseworth.”—*Dr. Leach.*

Sp. 12. *Achillææ*. *Ovalis, æneo-piceus, lavissimus, pedibus piceis*. (Long. corp. $\frac{3}{4}$ lin.)

Ph. *Achillææ*. *Mrs. Marsham*.—*Steph. Catal. p. 67. No. 707.*

Small, ovate, pitchy-black, with a brassy tinge: head and thorax extremely smooth and glossy: elytra with a stria near the suture: body dusky-piceous beneath: legs piceous; antennæ deep black.



Allied to the last, but considerably smaller, and distinguished by its brassy tinge.

“Taken in the flowers of the *Achillea Millefolium* in June, 1804, near Barham.”—*Marshall MSS.* I possess one specimen, from the neighbourhood of Bristol.

Sp. 13. *æneopiceus*. *Brevis, ovalis, æneo-piceus, lævissimus, antennæ pedibusque piceis.* (Long. corp. $\frac{7}{12}$ — $\frac{3}{4}$ lin.)

Ph. *æneopiceus*. *Kirby MSS.*—*Steph. Catal. p. 67. No. 708.*

Less than the last, which it closely resembles, and of which it may possibly prove a variety; differing from it chiefly in the uniform colour of its antennæ and legs. Short, ovate, convex, pitchy-brassy, very glossy: head and thorax impunctate: elytra as in the preceding species: body dull pitchy beneath: legs and antennæ rufo-piceous.

Found near London, and in Norfolk and Suffolk.

Sp. 14. *bicolor*. *Oblongo-ovatus, niger, nitidissimus, antennæ pedibus corporeque subtilis rufo-testaceis, elytris bistriatis, maculâ ante apicem ferrugineâ.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Ph. *bicolor*. *Paykul.*—*Steph. Catal. p. 67. No. 709.*

Size variable: oblong-ovate, very glossy black; head short, smooth: mouth ferruginous: thorax smooth: elytra rather broad at the base, attenuated at the apex, each with two striæ towards the suture, and uniting near the tip; a little within the apex of each elytron is an obscure ferruginous spot, varying in form and intensity, and is sometimes nearly obsolete: body beneath dull rufo-testaceous, or pale ferruginous, finely punctulate and slightly pubescent: legs and antennæ pale testaceous.

The red spot towards the apex of the elytra, and the pale under surface of the body, with the jet-black polished upper surface, distinguish this species.

Not common: found near London in flowers.

Sp. 15. *affinis*. *Ovatus, atro-piceus, æneo-nitens, elytris apice rufo-testaceis, subtilis pedibusque flavis.* (Long. corp. $\frac{1}{2}$ lin.)

Ph. *affinis*. *Sturm.*—*Steph. Catal. p. 67. No. 700.*

Ovate, deep pitchy-black, glossed with æneous; the head and thorax impunctate: elytra with the apex of a reddish or lutescent-testaceous, faintly punctate-striated: the body beneath, antennæ, and legs pale reddish-yellow.

The pale legs and antennæ, and the coloured apex to the elytra, with the æneous tinged head and thorax, discriminate this species from its congeners.

Not common: my specimens were captured near London.

Sp. 16. *Leachiellus*. *Oblongo-ovatus, nigro-fuscus, nitidissimus, antennæ pedibusque rufo-testaceis, corpore subtilis rufo-piceo, elytris unistriatis, apice testaceo.* (Long. corp. 1 lin.)

Ph. *Leachiellus mihi.*—*Steph. Catal. p. 67. No. 710.*

Oblong-ovate, deep fuscous, very glossy: head and thorax smooth, nearly black:

elytra blackish-brown, glossy, not very broad at the base, the apex testaceous, each with a single obscure stria towards the suture: antennæ and legs testaceous-red; body pitchy-red beneath.

The single stria on each elytra at once distinguishes this from the two last species, which are its nearest allies.

I have captured this species near London. "Bristol, by Mr. Miller."—*Dr. Leach*, who first supplied me with specimens.

Sp. 17. *flavicornis*. *Ovatus, niger, nitidus, corpore subtilis pedibusque rufo-testaceis, antennis flavescentibus*. (Long. corp. $1-1\frac{1}{8}$ lin.)

Ph. *flavicornis*. *Sturm*.—*Steph. Catal.* p. 67. No. 711.

Ovate, glossy black, head and thorax smooth, elytra immaculate-black, with the apex sometimes slightly pitchy, and a single stria on each towards the suture: body beneath pitchy-ferruginous or testaceous-red: legs the same, but of a bright or castaneous hue: antennæ pale yellowish.

The short, ovate, form of this species, with its concolorous apex to the elytra, and dissimilarly coloured antennæ and legs, discriminate this from the foregoing, which it somewhat resembles.

Found near London, and also near "Bristol, by Mr. Millard."—*Dr. Leach*.

Sp. 18. *Stephensii*. *Subelongato-ovatus, atro-brunneus, paulo æneo-micans, subtilis piceus, elytris ad apicem piceo-testaceis, antennis pedibusque pallidis*. (Long. corp. $\frac{3}{4}$ —1 lin.)

Ph. *Stephensii*. *Leach MSS.*—*Steph. Catal.* p. 67. No. 712.

Slightly elongate-ovate, of a deep shining brown, verging to castaneous, and somewhat glossed with æneous, with the under surface piceous: head and thorax smooth immaculate: elytra with the apex rather pale or pitchy-red, with a very faint stria on each near the suture: antennæ and legs very pale testaceous. The concolorous pale testaceous legs and antennæ, with the pitchy abdomen, slightly bronzed elytra, and somewhat elongate form, exclusively of other characters, distinguish this from the foregoing species.

Taken near London, and at Hertford, by myself. "Lambeth."—*Dr. Leach*.

Sp. 19. *rufipes*. *Brevior, ovatus, fusco-testaceus, thoracis margine, elytrorumque apicibus, antennisque pallide testaceis, pedibus ferrugineo-rufis*. (Long. corp. $\frac{3}{4}$ lin.)

Ph. *rufipes*.—*Steph. Catal.* p. 67. No. 713.

Short, ovate, shining testaceous-brown; head smooth, mouth concolorous: thorax pitchy-brown, with the margin pale rufo-testaceous: elytra short, broad pitchy-brown, with the apex very pale testaceous, with a faint stria near the suture: body beneath and antennæ pale testaceous; legs rusty-red.

Closely allied to the three following species, with which it agrees in being less acuminate behind, but apparently distinct, from its greater width, the hue of



its legs and concolorous mouth, and the absence of striæ on the humeral angle of the elytra.

Found near London. "Near Bristol."—*Dr. Leach.*

Sp. 20. *geminus*. *Ovatus, brunneo-testaceus, nitidissimus, antennis pedibus elytrorumque apicibus pallidis, elytris striâ unicâ suturali, et versus humerum alterâ rudimentâ.* (Long. corp. $\frac{3}{4}$ — $1\frac{1}{4}$ lin.)

Ph. *geminus*. *Sturm.*—*Steph. Catal.* p. 67. No. 714.

Ovate, testaceous-brown, very glossy, head smooth, reddish-chestnut, with the mouth pale testaceous, and the eyes black: thorax glossy castaneous, with the margins usually paler: elytra rather obtuse behind, very convex and smooth, glossy chestnut, with the apex more or less pale flavescent, each with a faint stria near the suture, and one or more obsolete rudimentary ones towards the shoulders: body pale castaneous beneath: antennæ and legs pale testaceous.

The obsolete humeral striæ distinguish this from the preceding and following species.

Not uncommon near London: also found in Norfolk, Devonshire, and near Swansea.

Sp. 21. *consimilis*. *Ovatus, fusco-ferrugineus, nitidissimus, antennis elytrorum apicibus pedibusque ferrugineis.* (Long. corp. 1 — $1\frac{1}{4}$ lin.)

De. *consimilis*. *Marsham.*—*Steph. Catal.* p. 67. No. 715.

Ovate, deep rusty-brown, very glossy: head deep castaneous brown, with the mouth pale and the eyes black; thorax with a narrow pale margin: elytra short, ovate, moderately convex, smooth, and very glossy, with a single faint stria towards the suture, and an obsolete one towards the shoulders; the apex ferruginous: body beneath, legs, and antennæ, ferruginous.

Similar to the last, but of a deeper colour. I suspect that it is merely a variety, in rather a more mature state, of the foregoing insect: it however is generally of a larger size, and the form appears somewhat different.

Not uncommon beneath the bark of trees and on flowers near London. "Netley, Salop."—*Rev. F. W. Hope.*

Sp. 22. *piceus*. *Brevis, subovatus, posticè obtusus, brunneo-piceus, nitidus, thoracis margine elytrorumque apicibus concoloribus, subtus piceus, antennis pedibusque rufo-testaceis.* (Long. corp. $\frac{3}{4}$ — 1 lin.)

Sp. *piceus*. *Knoch.*—*Steph. Catal.* p. 67. No. 716.

Short, somewhat ovate, obtuse posteriorly: pitchy-brown, shining: head and thorax smooth, the anterior margin of the former slightly testaceous, the margins of the latter concolorous: elytra deep pitchy-brown, with the apex faintly paler, each with a single stria near the suture, but none towards the shoulders: body pitchy beneath: antennæ and legs testaceous-red.

The form of the three last but differs in the colour, by having the margins of the thorax and apex of the elytra concolorous: the body pitchy beneath, and



the legs and antennæ testaceous: it also wants the obsolete stria towards the shoulders of the elytra.

Taken near London and in Devonshire: I obtained specimens, by the above name, from Dr. Leach, from the latter county.

Sp. 23. Ulicis. *Obovatus, convexus, niger, nitidissimus, posterius subangustatus, subtus piceus, elytris lævissimis, versus suturam histriatis.* (Long. corp. $\frac{1}{2}$ — $\frac{5}{8}$ lin.)

Ph. Ulicis. Kirby MSS.—Steph. Catal. p. 67. No. 717.

Minute, obovate, convex, glossy black, slightly attenuated behind: head very glossy, with the mouth pitchy: thorax convex, immaculate shining black: elytra slightly attenuated behind, very convex anteriorly, deep glossy black, smooth, each with two faint striæ towards the suture, vanishing anteriorly: the disc, also, in certain positions, appears to have obsolete rudiments of striæ: body beneath and legs either pitchy-black or pale reddish-brown: antennæ rufo-testaceous at the base, with the apex dusky.

Smaller than any of the foregoing; from which it may be known by its slightly acuminate posterior extremity, convex anterior, and its colouring.

Found in Suffolk and Norfolk, on the *Ulex Europæus*.

Sp. 24. pygmæus. *Oblongo-ovatus, niger, subnitidus, elytrorum apicibus rufescentibus, corpore subtus pedibusque piceo-brunneis, antennis nigricantibus, elytris versus suturam bi- vel tri-striatis.* (Long. corp. $\frac{1}{2}$ lin.)

Ph. pygmæus. Sturm.—Steph. Catal. p. 68. No. 718.

Minute: oblong ovate, of a slightly glossy deep black; head and thorax immaculate, elytra also black, with the apex rufescent, each with two or three faint abbreviated striæ at the base near the suture: body beneath and legs pale pitchy-brown: antennæ dusky.

Differs from the last, in having the apex of the elytra rufescent, the legs pale testaceous, and the body beneath paler: it is also of a smaller size, and the elytra less attenuated behind.

Found near London.

Sp. 25. globosus. *Suborbiculatus, convexiusculus, rufo-brunneus, pedibus flavescentibus, antennarum capitulo nigricanti.* (Long. corp. 1 lin.)

Ph. globosus. Sturm?—Steph. Catal. p. 68. No. 719.

Minute, suborbiculate, slightly convex, reddish-brown, or dull chestnut, glossy, impunctate: elytra not striated, rather obtuse posteriorly: legs pale reddish-yellow: antennæ pale reddish-yellow at the base, dusky at the apex.

Distinguished by its suborbicular form and minuter bulk, as well as by its pale colour and want of punctures or striæ.

Taken near London; and apparently the Ph. globosus of Sturm.

Sp. 26. picorrhæus. *Oblongo-ovatus, niger, lævis, nitidiusculus, pedibus elytrorumque apicibus picis.* (Long. corp. $\frac{1}{2}$ lin.)



De. piceorrhæus. *Marsham.*—*Steph. Catal. p. 68. No. 720.*

Minute: oblong-ovate, slightly convex, and a little attenuated posteriorly, smooth, shining black; head and thorax immaculate; elytra with the apex more or less piceous, or flavescent, their surface impunctate: legs pitchy-red or piceous: antennæ pale testaceous, with the club dusky.

Known by the distinct patch of colour at the apex of the elytra; by its minute size and the immunity of its elytra: from the next species it differs in the colour of its upper surface and by its pale antennæ.

Found near London; also in Norfolk, Suffolk, and near Bristol.

Sp. 27. pulchellus. *Ovatus, nitidus, capite thoraceque atris, elytris fusco-castaneis, apicibus dilutioribus, pedibus antennisque rufis.* (Long. corp. $\frac{1}{3}$ lin.)

De. pulchellus. *Marsham.*—*Steph. Catal. p. 68. No. 721.*

Very minute: ovate, glossy; the head and thorax black, with the anterior margin of the latter slightly castaneous; elytra of a castaneous-brown, with the apex paler; smooth, not striated: legs and antennæ pale rufous.

The smallest species of the genus; differs from the foregoing by the deeper colour of its antennæ, smaller size, and dissimilar colouring, the diluted patch at the apex of the elytra being small, and not distinctly indicated, as in that insect: from the following it differs by its pale antennæ, and by wanting the striæ on the elytra.

My specimens of this minute insect I obtained from the Marshamian cabinet.

Sp. 28. nitens. *Oblongiusculus, niger, nitidus, elytrorum apicibus pallidis, pedibus ferrugineis, antennis nigris, elytris substriatis.* (Long. corp. $\frac{2}{3}$ lin.)

De. nitens. *Marsham.*—*Steph. Catal. p. 68. No. 722.*

Minute; rather oblong, black, shining: head and thorax immaculate: elytra faintly striated, pitchy-black, with the apex paler: legs ferruginous: antennæ dusky or black.

The small bulk, deep shining black body, with faintly striated, pale tipped elytra, ferruginous legs, and dusky antennæ, sufficiently distinguish this species from all the foregoing.

Found in Suffolk and Norfolk.

GENUS CIX.—EPHISTEMUS, *Westwood MSS.*

Palpi not filiform; *maxillary* with the basal joint robust, the terminal elongate, subulate; *labial* very short: *mandibles* rather prominent, with the apex entire. *Antennæ* rather elongate, approximating at the base, the two basal joints robust, the third more slender than, but not so long as, the second, the five following very short, globose, the remainder forming a triarticulate club, with the terminal joint obtuse: *head* minute: *thorax* slightly gibbous,



a little narrowed anteriorly: *elytra* entire, slightly attenuated behind, rounded at the apex: *body* elongate-ovate, acuminate at each end, somewhat convex: *legs* short; *tibiæ* slender, not spinose; *tarsi* very slender, all five-jointed, the penultimate joint simple.

This genus, which consists of very minute species, may be at once known from *Phalacrus*, by the approximation of the antennæ at the base, which in that genus are remote; there are other essential distinctions, as may be observed by the above characters. In several respects, *Ephistemus* approaches towards the genus *Atomaria*, especially in the structure and insertion of the antennæ; but the ovate, subconvex body, exclusively of other characters, appear to point out the present family as its proper station; as amongst the *Necrophaga* (to which group *Atomaria* belongs) the body is generally more or less linear: the affinity therefore appears to me to result from the peculiar situation of the two genera in their respective circles.

Sp. 1. *Gyrinoides*. *Niger, nitidus, glaber, antennis pedibusque testaceis.* (Long. corp. $\frac{1}{2}$ lin.)

De. Gyrinoides. Marsham.—*Steph. Catal.* p. 68. No. 723.

Shining, glabrous: head black, impunctate, with the mouth testaceous: thorax black, without punctures; the anterior margin slightly castaneous: *elytra* also black, very convex, and rather wide anteriorly, impunctate, the apex obscurely margined with piceous: antennæ and legs pale testaceous.

Less than the following species, and known by the uniformity of the colouring of the antennæ and legs: and differs from *Ep. confinis*, by wanting the castaneous apex to the *elytra*.

The generic peculiarity of form is well pointed out by Marsham in his concise description of the species: "*De. niger, nitidus, utrinque acutiusculus, antennis pedibusque testaceis.*"

I possess a pair of this insect; one of which I obtained from the Marshamian cabinet; the other I received from Glamorganshire; and Mr. Westwood has captured two near London.

Sp. 2. *nigriclavis*. *Niger, nitidus, glaber, pedibus testaceis, antennarum capitulo nigricanti.* (Long. corp. $\frac{1}{2}$ — $\frac{5}{8}$ lin.)

Ep. nigriclavis miki.—*Steph. Catal.* p. 68. No. 724.

Shining, glabrous: head black, impunctate, mouth pitchy-testaceous, thorax black, the anterior margin concolorous: *elytra* deep pitchy-black, with the apex somewhat paler: legs rufo-testaceous: antennæ pale-testaceous at the base, with the club dusky.

The superior bulk and dusky capitulum of the antennæ at once distinguish this species.



My specimen of this species occurred in the New-Forest; Mr. Westwood possesses one taken near London.

Sp. 3. confinis. PLATE 15. f. 2. *Niger, nitidus, subpubescens, elytris glabris, elytrorum apicibus antennisque pedibusque castaneis.* (Long. corp. $\frac{1}{2}$ lin.)

Ep. confinis mihi.—*Steph. Catal. p. 68. No. 725.*

Glossy black, slightly pubescent: head impunctate, with the mouth testaceous: thorax with the anterior margin narrowly edged with castaneous: elytra glabrous, impunctate, deep pitchy-black, with the apex more or less castaneous; antennæ and legs castaneous.

Differs from the foregoing in the pubescence of the head and thorax, and concolorous antennæ; from Ep. *gyrinoides* by the colour of the antennæ and legs, and by the large castaneous patch at the apex of the elytra.

The Ep. *Histeroides*, *Westwood MSS.*, appears to be a dark variety of this species.

I have one of this species from the neighbourhood of Bristol. "Putney."—*Mr. Westwood.*

GENUS CX.—LEIODES, *Latreille.*

Palpi scarcely filiform; *maxillary* with the terminal joint subcylindric, acuminate, the preceding minute; *labial* rather shorter, with the apical joint subovate: *mandibles* somewhat exerted, acute. Antennæ with the three basal joints subcylindric, the third rather longest, the three following short, subglobose, the remainder forming a five-jointed club, the second joint of which, or the eighth of the antennæ, is very minute, and the terminal, or eleventh, large and subovate: *head* small: *thorax* transverse, the sides rounded: *body* ovate or subhemispheric, above convex, glabrous: *elytra* margined, entire: *legs* moderate; *femora* sometimes dentate; *tibiæ* compressed, externally spinose; *posterior* sometimes bent; *tarsi*, four anterior five-jointed, slightly dilated in the males, two posterior four-jointed.

Latreille, and the followers of the tarsal system, place this genus very remote from *Phalacrus*; but I conceive that the present location is more natural, as the habits of the insects are not dissimilar to those of the other *Rypophaga*, but totally unlike those of the genera with which they must necessarily be associated, if the number of tarsal joints alone is to guide us in our arrangements. The genus is rather an extensive one, and the species are far from abundant in Britain; they differ considerably among themselves, and it might facilitate the investigation of the species, were the genus subdivided more than I have attempted; but the only characters that seem available appear to be sexual: from the other genera of this family



Leiodes may be at once distinguished by the minute eighth joint of the antennæ, or the second of the capitulum:—the species are found in Boleti, Agarici, beneath the bark of trees, putrid wood, damp banks, &c.

A. Body more or less ovate, not subhemisphæric.

Sp. 1. punctata. *Elongato-ovata, luteo-flava, nitida, pedibus flavis, antennarum basi rufo-flavescente, capituli articulis tribus ultimis nigricantibus, elytris crebre punctatis.* (Long. corp. $1\frac{1}{2}$ lin.)

Anis. punctata. Sturm.—Le. punctata. Steph. Catal. p. 68. No. 726.

Elongate-ovate, luteous yellow, shining: head rufescent: thorax covered with faint remote punctures: elytra thickly punctured throughout, the punctures rather deep and coarse, with an obscure stria near the suture: legs pale flavescent; antennæ reddish-yellow at the base, with the three terminal joints of the capitulum dusky.

Distinguished from the other indigenous species of this section by the absence of punctate striæ on the elytra, by the pallid hue of its legs, and by the colour of its antennæ, the three last joints alone being dusky.

I have taken this species near London; in which district it has also been captured by Mr. Westwood.

Sp. 2. aciculata. *Brevis, ovata, capite thoraceque rufo-testaceis, elytris saturatioribus subtiliter transversim strigosis, striâ suturali unicâ.* (Long. corp. $\frac{1}{2}$ lin.)

Anis. aciculata. Kunze.—Le. aciculata. Steph. Catal. p. 68. No. 727.

Minute, short, ovate: head and thorax rufo-testaceous, impunctate: eyes black: elytra somewhat castaneous, finely strigose transversely throughout, with a rather deep simple stria on each towards the suture; and with a powerful gloss the rudiments of one or two others may be observed on the disc: body beneath and legs pale rufo-testaceous, the posterior femora obsoletely dentate towards the base: antennæ pale testaceous.

The minuteness of this insect, united to the pale hue of its impunctate head and thorax, dark transversely strigulose elytra, with simple striæ, and pale antennæ, sufficiently distinguish it from the two following species, which alone have three elytra transversely strigose.—It is probably the *Anisotoma spinipes*.—Gyllenhal, v. iii. 709.

The locality of one of my specimens, which I obtained from Dr. Leach by the above name, is unknown to me; the other was taken near "South Creek, Norfolk."—Rev. J. Skrimshire.

Sp. 3. dentipes. *Globoso-ovata, rufo-testacea, antennarum clavâ concolore, oculis nigris, elytris subtilissimè punctato-striatis, interstitiis obsolete transversim striatis.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Anis. dentipes. Gyllenhal?—Le. dentipes. Steph. Catal. p. 68. No. 728.

Globose-ovate: head broad, shining, testaceous-red: eyes black, thorax smooth, rufo-testaceous: elytra slightly attenuated behind, very convex, glossy testaceous-red, and very faintly punctated striate, the interstices finely strigose transversely: body pale testaceous beneath; legs stout, pale testaceous; hinder femora with a large subacuminate tooth at the apex, and a smaller one near the middle; hinder tibiæ slightly arcuated: antennæ pale testaceous, the eighth joint scarcely less than the preceding: paler, without the denticulations on the posterior femora.

Known from the last by the elytra being concolorous with the head and thorax, and punctate striated; and from the next by the pale clava of the antennæ.

Taken in a bank near Coombe-wood.

Sp. 4. *brunnea*. *Globoso-ovata, rufo-brunnea, antennarum clavâ oculisque nigris, elytris subtiliter punctato-striatis, interstitiis obsoletissime transversim substrigosis*. (Long. corp. $\frac{3}{4}$ —1 lin.)

Anis. *brunnea*. *Gyllenhal*.—*Le. brunnea*. *Steph. Catal. p. 68. No. 729.*

Small: globose-ovate: head glossy rufo-brunneous, smooth: eyes black: thorax very convex, polished rufo-brunneous, impunctate: elytra rather attenuated behind, very convex, glossy rufo-brunneous, regularly but finely punctate-striated, the interstices obsoletely strigose transversely: body pale rufo-testaceous beneath: legs stout, rufo-testaceous: antennæ ferruginous at the base, the five apical joints black, or fuscous: the eighth joint distinctly smaller than the seventh.

Distinguished by the black clava of the antennæ from the two preceding species: and from all the rest by the transverse strigæ on the elytra.

Found near London: at Darent-wood, beneath the bark of an old pollard oak.

Sp. 5. *badia*. *Globoso-ovata, castaneo-brunnea, oculis nigris, antennis pedibusque pallidis, elytris punctato-striatis, interstitiis impunctatis*. (Long. corp. $\frac{3}{4}$ — $\frac{7}{8}$ lin.)

Anis. *badia*. *Sturm*.—*Le. badia*. *Steph. Catal. p. 68. No. 730.*

Small: globose-ovate: deep castaneous-brown, head and thorax impunctate: eyes black: elytra finely punctate-striated, the interstices impunctate: legs and antennæ pale-testaceous.

The deep castaneous hue of this small insect, and the simple interstices between the striæ on the elytra, and pale legs and antennæ, distinguish it from its congeners.

Gyllenhal considers *Sturm's An. badium* to be referrible to the preceding insect; but the absence of the transverse strigæ, and concolorous clava of the antennæ, appear to militate against his opinion.

Taken in the metropolitan district; once found near Coombe-wood.

Sp. 6. *pallens*. *Oblongo-ovata, depressiuscula, corpore toto pallide luteo, oculis*



nigris, antennarum capitulo nigricanti, elytris punctato-striatis. (Long. corp. 1 lin.)

Anis. pallens. Sturm.—Le. pallens. Steph. Catal. p. 68. No. 731.

Oblong-ovate: entirely of a pale luteous or ochraceous, with the under side and legs paler, the eyes black, and the club of the antennæ dusky: head and thorax impunctate: elytra punctate-striate, the interstices smooth.

The elongate and depressed form, and pale ochraceous hue of this species, with its dark eyes and dusky club of the antennæ, are its chief characters.

A single specimen taken by myself in the hedge leading to Darent-wood from the village.

Sp. 7. multistriata. *Oblongo-ovata, ferruginea nitida, capite thoraceque saturatioribus, subtiliter punctulatis, elytris confertissimè striato-punctatis.* (Long. corp. 1 lin.)

Anis. multistriatum. Gyllenhal.—Le. multistriatum. Steph. Catal. p. 68. No. 732.

Oblong-ovate; glossy-ferruginous, the head and thorax darker; the former finely, but not very thickly, punctate: eyes brown: mandibles dusky at the apex, smooth pale castaneous: thorax finely punctured: elytra convex, attenuated posteriorly, pale rusty-red; thickly punctate in striæ, the alternate rows of punctures being somewhat less than the other, and the striæ placed rather confusedly on the shoulders: body beneath, and legs testaceous; the latter palest, with the hinder tibiæ a little bent: antennæ ferruginous, with the club dusky.

The close approximation of the striæ on the elytra at once distinguish this species.

The only specimen I have seen of this species was captured by myself near Hertford.

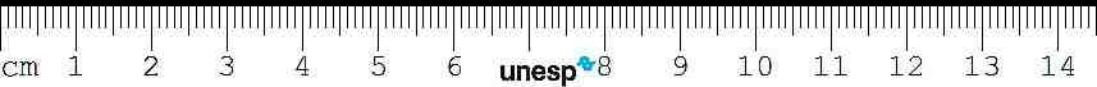
† Sp. 8. punctatissima. PLATE 15. f. 3. *Oblongo-ovata, depressiuscula, aterrima, nitida, antennarum basi, ore, tibiis tarsisque pallide testaceis, thorace elytrisque vagè et creberrimè punctatis.* (Long. corp. 1 lin.)

Le. punctatissima mihi. Steph. Catal. Appendix.

Oblong-ovate, rather depressed; of a deep glossy black: head rather faintly punctured: thorax with the disc thickly, but rather confusedly, punctate: elytra thickly and deeply punctate, the punctures somewhat confused, and forming several irregular striæ, those on the sides of the elytra united by a faint impression, and forming transverse strigæ or wrinkles: body beneath deep black, finely punctured: femora pitchy; posterior nearly black; tibiæ and tarsi pale testaceous; mouth the same: antennæ with the seventh, ninth, tenth, and eleventh joints pitchy-black; the remainder pale-testaceous.

The intense black colour of this conspicuous insect, with its deeply punctured elytra, and depressed elongate form, at once distinguish it from its congeners.

One example only of this very distinct species has come under



my observation; it was casually "found floating in a pond near Kimpton, in November last (1828); since when, another but smaller specimen has occurred."—*Rev. G. T. Rudd.*

Sp. 9. *castanea*. *Ovalis, nigro-picea, subtus rufo-ferruginea, elytris glabris immaculatis, confusè geminato-striatis, interstitiis punctulatis.* (Long. corp. 1—1½ lin.)

Anis. castaneum. *Illiger*.—*Le. castanea*. *Steph. Catal. p. 68. No. 733.*

Oval, pitchy-black, shining; slightly attenuated posteriorly: head and thorax faintly punctured; the margins of the latter rufescent: elytra glabrous, immaculate, with the margins slightly rufescent; thickly punctured throughout, the punctures placed very irregularly in double striæ, with dispersed intermediate smaller ones, the striæ more evident towards the apex: body beneath and legs rufo-testaceous: antennæ ferruginous, with the club dusky.

Distinguished by the pale margins of the dark-coloured thorax and elytra, and by the irregular punctulations of the latter, united to the pale rufous abdomen and dusky club of the antennæ.

My specimens I captured in a fir-plantation near Hertford, feeding on fungi.

Sp. 10. *punctulata*. *Globoso-ovata, ferruginea, creberrimè punctata, capite nigro-piceo, elytris profundè punctato-striatis, interstitiis regularitèr striato-punctatis.* (Long. corp. 1—1½ lin.)

Anis. punctulatum. *Gyllenhal*.—*Le. punctulata*. *Steph. Catal. p. 69. No. 735.*

Globose-ovate; glossy ferruginous, thickly punctured: head pitchy-black: thorax shining castaneous or rusty-brown: elytra ferruginous, with the suture rather dusky; regularly and rather deeply punctate-striate, each interstice with a continuous row of minute impressions: body beneath shining ferruginous, with the breast darker: legs pale testaceous: antennæ ferruginous at the base, with a dusky clava.

Known by the row of minute impressions placed between each of the ordinary striæ.

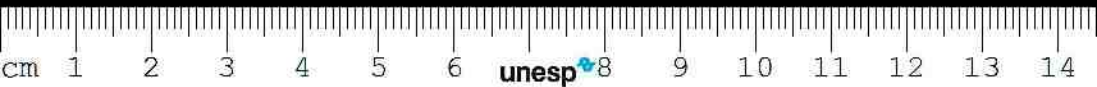
Taken by myself near Hertford.

Sp. 11. *Marshami*. *Ovata, atra, elytris castaneis obsoletissimè punctato-striatis, interstitiis subtilissimè punctatis.* (Long. corp. 1 lin.)

Le. Marshami mihi.—*Steph. Catal. p. 69. No. 734.*—*Der. castaneus. Marsham.*

Ovate, slightly depressed, very smooth and glossy: head and thorax deep fuscous, finely punctured; elytra castaneous, very faintly punctate-striated; the interstices rather obscurely punctured: antennæ and legs dusky.

The dark head and thorax, and dusky legs and antennæ, with the slightly depressed body and very faintly striate castaneous elytra, characterize this species, which I have named in memory of its late possessor; the name cas-



tanea having been used by Illiger for one of the foregoing species, previously to its adoption by Marsham for the present.

Taken near London and in Suffolk.

Sp. 12. thoracica. *Globoso-ovata, piceo castanea, thorace nitidissimo, creberrime et tenuè punctato, elytris rufo-castaneis, punctato-striatis, interstitiis impunctatis.* (Long. corp. 1—1½ lin.)

Le. thoracica mihi.—Steph. Catal. p. 69. No. 736.

Globose-ovate; pitchy-chestnut, shining: the thorax globose, extremely glossy, very thickly but faintly punctured: scutellum castaneous or dusky; elytra pale chestnut-red, rather deeply punctate-striate, the punctures distinct, the interstices impunctate: body beneath and legs pale ferruginous; hinder femora with a tooth at the apex, tibiæ very slightly bent: antennæ ferruginous at the base, the clava dusky.

The abbreviated subglobose body very glossy, convex, and faintly punctured thorax, and pale elytra, with the distinctness of the impressions which compose the striæ on the latter, and the smooth interstices, are the prominent characters of this species.

Found by myself in the lane leading to Combe-wood.

Sp. 13. polita. *Globoso-ovata, castanea, nitidissima, elytris punctato-striatis, interstitiis sparsim punctulatis.* (Long. corp. 1—1½ lin.)

Silpha polita. Marsham.—Le. polita. Steph. Catal. p. 69. No. 737.

Globose-ovate, castaneous; very glossy, the thorax especially: thorax faintly but minutely punctured throughout: elytra deeply punctate-striate, the interstices convex, with a few scattered impressed dots on each, especially towards the apex: body beneath and legs pale testaceous: antennæ rufo-testaceous, with the club rather dusky.

Allied to the last in form, but differs in having the thorax less punctured, the interstices between the striæ on the elytra more elevated, and furnished with a few scattered impressions. The above description was made from Marsham's original specimens, which I possess.

I have occasionally taken this species in various parts of the metropolitan district.

Sp. 14. nigriclavis. *Oblongo-ovata, saturatè ferrugineo-castanea, thorace punctulato, anticè bifoveolato, antennarum capitulo nigricante.* (Long. corp. 1½ lin.)

Le. nigriclavis mihi.—Steph. Catal. p. 69. No. 738.

Larger than either of the foregoing: oblong-ovate, of a deep ferruginous-chestnut, slightly glossy: head faintly punctured: thorax rather deeply and thickly punctate, with two larger impressions on the disc anteriorly: elytra faintly punctate-striate, the interstices somewhat depressed and impunctate: body pitchy beneath: legs and antennæ testaceous, the latter with a dusky club.

The two foveæ on the thorax distinguish this from any of the other species.

Found near London.

Sp. 15. *maxillosa*. *Suboblongo-ovata, testacea, maxillis exsertis, elytris punctato-striatis, abdomine fusco*. (Long. corp. $1\frac{1}{2}$ lin.)

Anis. *maxillosa*. Kirby MSS.—Le. *maxillosa*. Steph. Catal. p. 69. No. 740.

Rather less than the last: somewhat oblong-ovate, entirely testaceous, with the eyes brown and the abdomen reddish-fuscos; the legs yellowish: the maxillæ exserted; the thorax finely but faintly punctured, and the elytra punctate-striate: the interstices slightly convex and impunctate.

The somewhat exserted maxillæ, oblong-ovate form, testaceous upper surface, and fuscous abdomen, seem to be the principal characteristics of this species.

Taken near London, and in Suffolk.

Sp. 16. *testaceus*. *Subgloboso-ovata, pallide testacea, capite thoraceque confertissime punctatis, elytris tenuè punctato-striatis, interstitiis deplanatis lævis, antennarum capitulo fusco*. (Long. corp. $1-1\frac{1}{8}$ lin.)

Le. *testaceus miki*.—Steph. Catal. p. 69. No. 741.

Subglobose-ovate, pale testaceous: eyes black: head and thorax finely, but thickly punctured throughout: elytra with the suture a little castaneous, very faintly punctate-striate, the punctures minute, the interstices flat, smooth: body beneath and legs rather paler: antennæ rufous at the base, with the capitulum dusky.

The pale testaceous colour, black eyes, thickly but finely punctured head and thorax, faintly striated and impunctate elytra, and dusky clava of the antennæ, are the chief distinctions of this subglobose species.

Inhabits the south coast of Wales near Swansea, and the county of Norfolk.

Sp. 17. *Sturmii*. *Subgloboso-ovata, rufo-brunnea, thorace impunctato, elytris punctato-striatis, interstitiis lævis, pedibus pallidis, antennarum capitulo nigricanti*. (Long. corp. 1 lin.)

Anis. *brunneum*. Sturm?—Steph. Catal. Appendix.

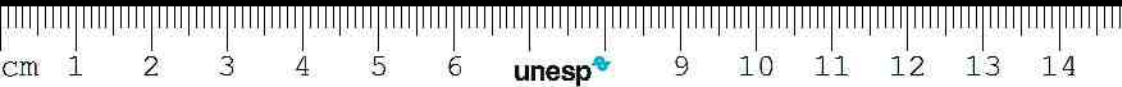
Subglobose-ovate: reddish-brown, with the thorax impunctate: the elytra punctate-striated, the interstices smooth: the legs pale testaceous: the antennæ rufescent, with the club dusky.

This is probably the An. *brunneum* of Sturm; a name which must fall, from having been previously employed by Gyllenhal: the above character sufficiently identifies the species.

My specimen was taken near London.

Sp. 18. *ferruginea*. *Subgloboso-ovata, rufo-ferruginea, elytris profunde punctato-striatis, tibiis spinosissimis*. (Long. corp. $1\frac{1}{4}$ lin.)

Anis. *ferrugineum*. Fabricius.—Le. *ferruginea*. Steph. Catal. p. 69. No. 739.



Somewhat globose-ovate; rufo-ferruginous; very glossy: head rounded, slightly, punctulated, the mouth somewhat paler: thorax finely but thickly punctured, very glossy: elytra rather convex, deeply punctate-striated, the interstices moderately convex, each alternate one with a series of minute impressions: body and legs stout, tibiæ very spinous, the hinder ones slightly bent.

The rows of impressed dots on the alternate interstices of the elytra, with the very spinose tibiæ and deep striæ, constitute the leading peculiarities of this species.

Taken in Norfolk and Devonshire. "Cheltenham, in June."

—*Dr. Leach.*

Sp. 19. *rufipennis*. *Globoso-ovata, nigro-picea, elytris ferrugineis profunde punctato-striatis, antennarum basi pedibusque rufo-testaceis.* (Long. corp. $1-1\frac{1}{4}$ lin.)

Sp. *rufipenne*. *Paykul.*—*Le. rufipenne.* *Steph. Catal. p. 69. No. 742.*

Globose-ovate, shining; head pitchy-black, finely punctulated, mouth ferruginous, mandibles piceous at the apex: eyes brown: thorax glossy pitchy-black, with the margins slightly ferruginous, the disc a little punctulate: elytra ferruginous, deeply punctate-striated, with some remote impressed dots on each alternate interstice: body beneath glossy pitchy-black, the abdomen pale rufo-piceous: legs rufo-ferruginous: hinder tibiæ elongated and much curved: antennæ ferruginous, with the clava pitchy-black.

The dark pitchy-black head and thorax, with ferruginous elytra, and distinct elongate, bent, hinder tibiæ distinguish this species.

Not uncommon: it has been captured in hedges at Coombe and Darenth; and I once found a specimen near Hertford.

Sp. 20. *cinnamomea*. *Oblonga, rufo-ferruginea, thorace convexo, nitido, punctatissimo, elytris punctato-striatis, interstitiis alternis punctis majoribus remotis impressis.* (Long. corp. $2-3\frac{1}{4}$ lin.)

Le. cinnamomea. *Panzer.*—*Le. cinnamomea.* *Steph. Catal. p. 69. No. 744.*
♂? *Le. Tuberis.* *Steph. Catal. p. 67. No. 745.*

The largest species of the genus, but extremely variable in size: oblong-ovate; glossy rufo-ferruginous; head finely and thickly punctured, with two larger impressions on the forehead: thorax very convex, glossy, thickly and minutely punctured throughout, with a transverse row of larger punctures at the hinder angle: elytra not very deeply punctate-striated: the interstices very minutely punctulate; with some irregularly placed larger impressions on each alternate one; body beneath dull rufous; legs paler, the posterior femora in the male subclavate, with two or three denticulations towards the apex, and a strong tooth at the tip itself; the posterior tibiæ very much elongated, incurved, and denticulate internally: antennæ ferruginous at the base; the club dusky. Female with the posterior legs short, simple, and not curved.

This species is known from all the preceding by its larger size, and from the following by its pale rufo-ferruginous colour and thickly punctured thorax.



Rare near London; probably arising from its subterranean habits, occurring chiefly in Truffles (*Lycoperdon Tuber*): it has been found in Devonshire and Cornwall. "At Lord Braybrook's, Audleyend, in Essex."—*Rev. W. Kirby*, and *Professor Henslow*. "Common in the summer near Kimpton."—*Rev. G. T. Rudd*.

Sp. 21. *picea*. *Brevis ovalis, ferrugineo-castanea, oculis nigris, antennarum clavâ fuscâ, thorace ad angulos posticos transverse punctato; elytris punctato-striatis*. (Long. corp. 2 lin.)

Anis. *picea*. *Illiger?*—*Le. picea*. *Steph. Catal. p. 69. No. 746*.

Short, ovate; rusty-chestnut, rather glossy, with the eyes black; the antennæ with a dusky club: head rather coarsely and thickly punctate; thorax the same, with a row of still coarser impressions placed transversely at the hinder angles, as in *Le. cinnamomea*: elytra short, ovate, rather deeply punctate-striated, the interstices very obscurely punctured, with a few larger remote impressions on each alternate one, as in the preceding insect: body dull pitchy-chestnut beneath: hinder femora not elongated, with a single tooth in the middle; posterior tibiæ short, scarcely bent.

The shorter, ovate, form of this species, and its deep castaneous hue, nearly simple and not elongated posterior femora and tibiæ, well distinguish it from the last, with which it agrees in having a transverse row of impressions on the thorax behind.

Rare: once captured near London. "Luss, in Scotland, beneath a stone."—*Dr. Leach*.

Sp. 22. *Lycoperdi*. *Oblonga, saturate ferruginea, thorace convexo subnitido impunctato, elytris punctato-striatis, interstitiis lævibus*. (Long. corp. 2—2½ lin.)

Le. Lycoperdi mihi.—*Steph. Catal. p. 69. No. 743*.

Nearly as large as *Le. cinnamomea*: oblong, deep ferruginous: head and thorax rather pale, a little glossy and impunctate: elytra punctate-striate; the alternate interstices with a few somewhat regularly placed remote impressed dots, the rest of the surface impunctate: body dull testaceous beneath: legs paler; the hinder thighs but little thickened, with one large tooth near the middle, and a second towards the apex; the posterior tibiæ scarcely elongate, and but slightly arcuate: antennæ ferruginous.

The smaller size, and rather more elongate form, with the impunctate head and thorax, shorter and less denticulated posterior femora, and nearly straight hinder tibiæ, well distinguish this from *Le. cinnamomea*.

One of my specimens was found near Hereford, the other two in the west of England, either Devonshire or Cornwall.

Sp. 23. *armata*. *Brevis, subgloboso-ovalis, rufo-ferruginea, capite thoraceque im-*
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punctatis, elytris tenuè punctato-striatis, interstitiis punctulatis. (Long. corp. $1\frac{3}{4}$ lin.)

Anis. armata. Sturm.—Le. armata. Steph. Catal. p. 69. No. 747.

Short, subglobose-ovate: deep glossy rufo-ferruginous: head and thorax impunctate: elytra rather dilated anteriorly, faintly punctate-striate, the interstices thickly but finely punctured throughout, but without larger impressions on the alternate ones: body ferruginous beneath: legs pale rufo-testaceous; the hinder femora elongate, subclavate, slightly dentate; posterior tibiæ elongate, much bent; antennæ pale at the base, with the club dusky.

The short and broad subglobose form of this insect, which approaches towards that of the following section, with its impunctate thorax, and thickly punctured elytra, with elongated posterior legs and dentate femora, at once distinguish it from any of the foregoing.

“Moushould-heath, near Norwich.”—The late *M. J. Griffin, Esq.*; from whose collection I obtained my specimen. “Near Carlisle.”—*T. C. Heysham, Esq.*

Sp. 24. rugosa. *Brevis, subgloboso-ovalis, rufo-ferruginea, capite thoraceque punctulatis, elytris punctato-striatis, interstitiis transverse rugosis.* (Long. corp. $1\frac{3}{4}$ lin.)

Le. rugosa. Steph. Nomenclature, p. 6.—Steph. Catal. Appendix.

Short, subglobose-ovate; rather glossy rufo-ferruginous; head and thorax thickly but minutely punctured: elytra regularly though somewhat faintly punctate-striate, the punctures very distinct, the interstices transversely rugose: legs pale rufo-testaceous: eyes dusky: antennæ rufo-piceous; the three terminal joints very large.

The size of the foregoing species, which it greatly resembles, except in having the head and thorax thickly punctured and the elytra transversely rugose throughout, by which characters it may be known from its congeners.

Taken near London.

B. With the body nearly hemisphæric.

Sp. 25. humeralis. *Nigra subtilis rufo-ferruginea, elytris fulvo pubescentibus, confusè punctato-striatis, interstitiis confertissimè punctulatis, macula humerali rubrà.* (Long. corp. $1\frac{1}{4}$ — $1\frac{3}{4}$ lin.)

Anis. humeralis. Fabricius.—Le. humeralis. Steph. Catal. p. 69. No. 748.

Above black, beneath rufo-ferruginous: head deflexed, smooth; mouth testaceous; eyes bruneous: thorax very convex and shining, delicately and sparingly punctured, with the anterior and lateral margins and posterior angles castaneous: elytra black, with a large transverse quadrangular red spot at the shoulder; clothed with a fine fulvous pubescence, and thickly though rather faintly punctate throughout, and obscurely striated, the striæ placed without order: body rufo-piceous beneath, with the abdomen testaceous: legs rufo-ferruginous, the femora sometimes dusky: antennæ ferruginous at the base, with the club dusky.



Known by the rufous humeral spot, and the irregular striæ on its thickly punctate elytra.

I once met with this insect abundantly in an Agaric, at the end of June, in a wood near Greenhithe, Kent: it has been taken in Norfolk, Devonshire, the New Forest, &c. "Netley."—*Rev. F. W. Hope.*

Sp. 26. abdominalis. *Nigra, nitida, subtus rufo-picea, elytris regulariter punctato-striatis, interstitiis sublævibus.* (Long. corp. $1\frac{1}{16}$ — $1\frac{3}{4}$ lin.)

Anis. abdominale. *Paykul.*—Le. abdominalis. *Steph. Catal. Appendix.*

Above glossy-black, beneath rufo-piceous: head small, smooth; mouth testaceous; eyes brown: thorax very convex, faintly and sparingly punctured throughout, with the lateral and posterior margins externally ferruginous, pellucid; elytra entirely of a glossy black, regularly and distinctly punctate-striated, the interstices throughout finely and obsoletely punctulated: body beneath shining pitchy-red, punctured, abdomen rufo-testaceous: legs moderate, rufo-ferruginous.

Known from the preceding by the absence of the red spot at the base of the elytra, and by the regularity of the striæ on their disc.

The only indigenous specimen I have hitherto seen of this species I obtained from the north of England, since my Catalogue was printed off. I believe it was captured in Cumberland.

GENUS CXI.—AGATHIDIUM, *Illiger.*

Palpi filiform; *maxillary* with the last joint conic: *labials* small: *mandibles* with the apex acute. *Antennæ* short, with a subovate, triarticulate, club: *head* rather large, inflexed: *thorax* with the angles rounded, large, the sides inflexed: *body* globose-hemispheric, contractile into a ball: *elytra* entire, laterally inflexed: *legs* short; *tibiæ* setose; *tarsi* tetramerous, the joints entire.

Agathidium, which resembles *Leioides* in several respects, may be readily known by the difference in the structure of the antennæ,—the eighth joint not being smaller than the seventh, and the three last forming a subovate club; which, however, varies a little in the different species;—and from the facility these insects possess of rolling themselves up into a ball when alarmed: they inhabit putrid wood and fungi, and may be occasionally found in sand and gravel pits, into which they fall by accident.

Sp. 1. ruficollis. *Globosum, nigrum, thorace antennis pedibusque rufis, elytris obsoletè vagèque punctulatis.* (Long. corp. 1 — $1\frac{1}{2}$ lin.)

Dermestes ruficollis. *Marsham.*—Ag. ruficollis. *Steph. Catal. p. 69. No. 749.*

Subglobose, glossy black, with the antennæ, thorax, and legs rufous; the elytra and thorax obsoletely but dispersedly punctulate; body black beneath.

The rufous antennæ and legs distinguish this from the following species, with which it agrees in having a rufous thorax.

Rare. I possess one specimen from the Marshamian cabinet, and another taken at Colney-hatch wood in June.

Sp. 2. globus. PLATE XV. f. 4.—*Globosum, nigrum nitidum vagè punctulatum, thorace rufo, antennis pedibusque rufo-piceis.* (Long. corp. $1\frac{1}{2}$ lin.)

An. globose. Paykul.—Ag. globus. Steph. Catal. p. 70. No. 752.

Subglobose, shining black, irregularly punctulate, the punctures distinct; thorax very convex, bright shining red, and finely punctured: legs pitchy-red, with the apex of the tibiæ and the tarsi palest: body pitchy-black beneath, with the apex pale testaceous: antennæ deep rusty-brown, with the terminal joint bright ferruginous.

Differs from the last by the darkness of the legs and antennæ; by the terminal joint of the latter being paler than the rest;—the body being piceous below, and the anus testaceous.

Not common; found occasionally in woody places, in rotten trees, or amongst putrid leaves.

Sp. 3. ferrugineum. *Globosum, rufo-ferrugineum, nitidum, tenuè punctulatum, antennis pedibusque pallidioribus.* (Long. corp. $1\frac{3}{8}$ lin.)

Ag. ferrugineum. Sturm.—Steph. Catal. p. 70. No. 750.

The globose form of the preceding: above of a glossy testaceous or ferruginous-red, with the eyes fuscous: the thorax very shining and scarcely punctured, broad, the lateral and hinder margins greatly dilated, so that when the insect is in a walking position the thorax appears remote from the elytra: the latter finely punctured throughout, with a single stria near the suture, abbreviated anteriorly: body pale testaceous beneath: legs very short and pale testaceous: antennæ ferruginous: the eighth joint rather larger than the seventh, the remainder considerably larger and a little dusky.

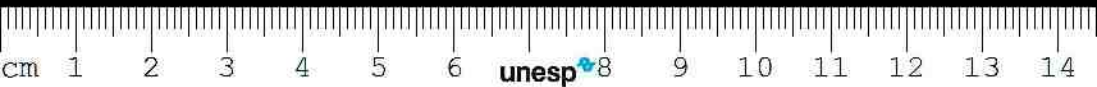
Distinguished by its pale head and elytra from the two preceding insects, and from the following by the same characters, the smallness of its scutellum, and larger size.

My specimen of this species was captured at Coombe-wood, beneath the bark of an old ash.

Sp. 4. atrum. *Atrum nitidum, subtilissime punctulatum, antennis pedibusque rufo-piceis, scutello magno.* (Long. corp. $1-1\frac{1}{4}$ lin.)

Anisotoma atrum. Paykul.—Ag. atrum. Steph. Catal. p. 70. No. 751.

Deep shining black, very thickly and finely punctulate: head large, rather smooth, mouth dull testaceous: thorax with its lateral margins considerably dilated, above very convex, scarcely punctulated, black, with the lateral and sometimes the posterior margin pellucid and rufescent: scutellum large, glossy,



smooth: elytra retuse at the base, very convex, finely punctured, with a single stria near the suture, abbreviated anteriorly: body piceous beneath: legs pitchy, with the tibiæ and tarsi pale ferruginous.

Differs from *Anisotoma nigrum* of Sturm, hereafter described, by the bulk of its scutellum, the abbreviated sutural stria, and its larger size: from all the preceding by its dark thorax; from *Ag. seminulum* by its piceous abdomen and black elytra; and from all the rest by its large scutellum.

Found occasionally in the sand-pits at Hampstead, and in the gravel-pits at Coombe-wood. "Norfolk."—*Dr. Leach*. "Captured in a *Boletus* growing on a fir in Thorp-wood, near Norwich, in April 1803, by the Rev. W. Kirby."—*Marsham MSS.*

Sp. 5. *seminulum*. *Nigro-piceum nitidissimum læve, subtus rufum, elytris apice ferrugineis, striâ suturali abbreviatâ.* (Long. corp. $1\frac{1}{2}$ lin.)

Silpha seminulum. *Linne.*—*Ag. seminulum*. *Steph. Catal. p. 70. No. 753.*

Extremely glossy pitchy-black; mouth pale testaceous: eyes black: thorax large, above very convex and shining, the margin pale ferruginous: scutellum large, triangular, smooth, piceous: elytra above convex, smooth, pitchy-black, with the apex pale ferruginous; very obsoletely punctulated; with a single anteriorly abbreviated sutural stria on each: body pale testaceous-red beneath: legs and antennæ rufo-testaceous.

Differs from the former by its smooth glossy surface and dissimilar colour, and from the following by the abbreviated sutural striæ.

Found occasionally beneath putrescent bark and in fungi, near London.

Sp. 6. *orbiculare*. *Nigrum nitidum lævissimum, antennis pedibusque rufo-piceis, elytris striâ suturali nullâ.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Tetratoma orbicularis. *Herbst.*—*Ag. orbiculare*. *Steph. Catal. p. 70. No. 754.*

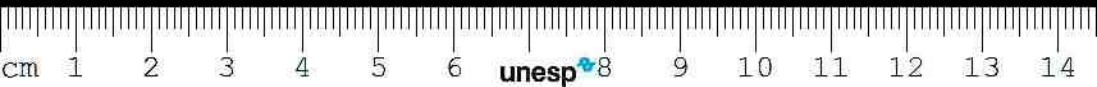
Smooth glossy black; head large, smooth; mouth ferruginous: thorax deeply emarginate anteriorly, the lateral and posterior margins, which are narrowly edged with ferruginous, forming a semicircle; the disc very convex, smooth glossy black: scutellum moderate, smooth; elytra rounded at the tip, above globose-convex, smooth, shining black, without a sutural stria: body beneath pitchy-black, a little shining: legs piceous, with the tibiæ and tarsi ferruginous: antennæ ferruginous; with part of the club sometimes pitchy.

Differs from the two last in wanting the sutural stria on the elytra, in being considerably smaller and of a different colour.

Inhabits the metropolitan district.

Sp. 7. *mandibulare*. *Atrum, nitidum, thoracis lateribus pedibusque rufo-testaceis, mandibula sinistra magnâ.* (Long. corp. 1 lin.)

Ag. mandibulare. *Sturm.*—*Steph. Catal. p. 70. No. 755.*



Glossy, smooth, black: thorax short, suborbiculate, slightly emarginate in front, its lateral and posterior margins rufo-testaceous, the latter concealing the scutellum: elytra very convex, rather acuminate behind, deep black, impunctate, with a faint stria near the suture posteriorly: body black beneath; legs rufo-testaceous: antennæ the same, with the club dusky: mandibles pitchy, the left one large and prominent.

The large horn-like left mandible at once characterizes this species.

I possess a single example of this remarkable species, taken near London.

Sp. 8. *nigrinum*. *Nigro-piceum, læve, nitidum, subtilis thoracis lateribus pedibusque rufo-fuscis*. (Long. corp. 1 lin.)

Agathidium nigrinum. *Sturm.—Steph. Catal. p. 70. No. 756.*

Pitchy-black, smooth, glossy: with the sides of the thorax and its hinder margin, the body beneath, and the legs rufous-brown; the antennæ pale, with a dusky fascia; the apical joint being coloured as the base: the scutellum minute.

The pale underside of this insect, with the smallness of its scutellum, the banded antennæ and smooth elytra, serve to distinguish this species.

Frequently taken in the metropolitan district.

Sp. 9. *affine*. *Atrum nitidum, thoracis lateribus marginibusque elytrorum ad apicem, antennis pedibusque rufo-testaceis*. (Long. corp. $\frac{3}{4}$ —1 lin.)

Dermestes affinis. *Marsham.—Ag. affine. Steph. Catal. p. 70. No. 757.*

Black, very glossy, impunctate, with the sides of the thorax, and of the elytra towards the apex, pale rufo-testaceous; the antennæ and legs deep rufo-testaceous; the latter with pitchy femora.

The pale rufo-testaceous margins of the thorax and elytra at once point out this from its congeners; and the piceous femora offer a strong point of dissimilarity to the following.

I obtained my specimens from the Marshamian cabinet by the above name.

Sp. 10. *carbonarium*. *Atrum, nitidum, antennis femoribusque pallidis, elytris punctulatis striâ suturali unicâ*. (Long. corp. $\frac{3}{4}$ lin.)

Ag. carbonarium. *Sturm?—Steph. Catal. p. 70. No. 758.*

Shining black; thorax impunctate, with the margin concolorous: elytra convex, deep black, finely punctulate, with an abbreviated stria on each near the suture: body pitchy-black beneath; femora pale testaceous; tibiæ and tarsi pitchy: antennæ pale testaceous.

The pale antennæ and femora, and deep black upper surface, distinguish this species.

One of my specimens was taken near London; the other I obtained from the Marshamian cabinet.



Sp. 11. minutum. *Obovatum, nigrum, nitidissimum, læve, thoracis limbo laterali rufo-testaceo, elytris postice acuminatis, disco rufo-piceis.* (Long. corp. $\frac{1}{2}$ lin.)

Ag. minutum. *Sturm.—Steph. Catal. p. 70. No. 760.*

Minute: obovate, very glossy-black, smooth: head broad convex; mouth piceous: thorax very convex, with the sides deflexed, and broadly ferruginous, the hinder margin narrowly bordered with the same colour: elytra ample, rather narrowed behind, black, the disc pitchy-red; very smooth, without an abbreviated sutural stria: legs pitchy-black; tarsi testaceous.

The red patch on the disc of the elytra at once serves to distinguish this species from its congeners.

Found near London, and in "Norfolk."—*Dr. Leach.*

Sp. 12. nanum. *Suborbiculatum, nigrum, nitidissimum, thoracis limbo laterali anguste testaceo, elytris postice obtusis, striâ suturali nullâ.* (Long. corp. $\frac{1}{3}$ lin.)

Ag. nanum. *Megerle?—Steph. Catal. p. 70. No. 761.*

Very minute: head broad, convex, smooth: thorax very convex, the sides considerably deflexed and narrowly edged with testaceous: elytra ample, obtuse posteriorly, very smooth, glossy, without a sutural stria, deep black, the apex sometimes piceous: body and legs black, the legs a little paler.

The smaller size and greater obtuseness of the elytra, with the black disc of the latter, sufficiently point out the distinction of this species.

Not uncommon in sand and gravel pits in the metropolitan district. "Edinburgh: Dartmoor, in March."—*Dr. Leach.*

GENUS CXII.—CLAMBUS, *Fischer.*

Trophi minute. *Antennæ* as long as the thorax, slender, pilose, the two last joints large, oblong, forming a club: *head* large, nearly or quite as broad as the thorax, rounded anteriorly: *thorax* transverse, the lateral margins more or less attenuated: *elytra* very convex, and gibbous anteriorly, attenuated, and declining posteriorly, the apex rounded: *body* contractile into a ball: *legs* short: *tibiæ* slender, slightly pilose: *tarsi* obscurely articulated.

Like *Agathidium* the species of this genus have the power of contracting themselves into a ball when alarmed. From the genus just mentioned they may be known by the great width and bulk of the head, and by the club of the antennæ being composed of two joints only, a structure which also obtains in the genus *Orthoperus*: but in that genus the head is small, the elytra but slightly gibbous, and somewhat truncate posteriorly. As in the kindred genera, the



species are found beneath putrid leaves and wood, or in fungi, and in sand and gravel pits, &c. Owing to their extreme minuteness, and the want of specimens, I have not been able to detail their generic characters so completely as could be wished.

Sp. 1. *Armadillus*. PLATE XV. f. 5. *Gibboso-ovatus, niger nitidus lævissimus, thoracis marginibus antennis pedibusque pallidis*. (Long. corp. $\frac{1}{2}$ lin.)

Der. *Armadillus*. De Geer.—Cl. *Armadillus*. Steph. Catal. p. 70. No. 762.

Glossy black, very smooth: head convex, rounded anteriorly, with the lateral margins angulated posteriorly: thorax convex, with the sides rounded, and pale, somewhat pellucid: elytra very convex, above shining black, impunctate, with a few short scattered hairs, the apex sometimes with a ferruginous tinge: body pitchy-black beneath: legs slender, pale: antennæ also pale, and slightly pilose.

Known from the next by wanting an abbreviated sutural stria, and from Cl. *enshamensis* by its colour and form.

Not common; found in the metropolitan district. "Hackney, in April last."—Mr. G. Waterhouse.

Sp. 2. *coccinelloides*. *Gibboso-ovatus, ater, nitidus lævis, thoracis marginibus concoloribus, antennis pedibusque piceo-testaceis, stria suturali abbreviatâ*. (Long. corp. $\frac{3}{4}$ lin.)

Anisotoma coccinelloides. Kirby MSS.—Cl. *coccinelloides*. Steph. Catal. p. 70. No. 763.

Shining black; head convex, smooth; thorax very convex, the sides margined and concolorous with the disc, which is black and impunctate: elytra deep black, very convex; sparingly punctate, each with an abbreviated stria at the apex near the suture: antennæ and legs pitchy-testaceous, the femora palest. Much larger than the foregoing, and distinguished by the concolorous margins to the thorax, and the abbreviated sutural stria.

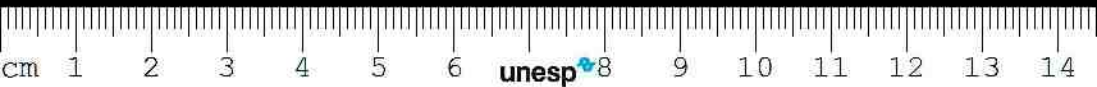
I possess a single example of this insect, which was kindly given to me by the Rev. W. Kirby, who captured it near Barham.

Sp. 3. *enshamensis*. *Rufo-testaceis, elytris saturatioribus, capite latissimo, maximo, thoracis lateribus attenuatis subacuminatis*. (Long. corp. $\frac{1}{2}$ lin.)

Cl. *enshamensis*. Westwood MSS.—Steph. Catal. p. 70. No. 764.

Ovate, shining, pubescent: head pale rufo-testaceous, very large and broad, slightly convex, the front rounded, the lateral margins produced into a lobe, in which the eyes are placed: thorax pale rufo-testaceous, slightly convex, the sides attenuated, somewhat acuminate, and pale testaceous: elytra convex anteriorly, somewhat depressed towards the apex, deep rufo-testaceous, or slightly piceous, impunctate, very pubescent: legs very slender, pale.

This extraordinary insect may be known by the immense size of its trilobe



head, compared with the rest of the insect, by its singular shuttle-shaped thorax, anteriorly gibbous elytra, and rufo-testaceous hue.

I found a specimen of this curious insect in a bank near Ripley, in June, 1827; but a pair had been previously taken at "Ensham, in Oxon."—*Mr. Westwood*; whose name, although now evidently inappropriate, I have retained, as a name once given ought not, without powerful reasons, to be changed. "Bottisham."—*Rev. L. Jenyns*.

GENUS CXIII.—CLYPEASTER, *Andersch.*

Trophis very minute. *Antennæ* rather slender, the three terminal joints forming an elongate-ovate compressed club: *head* minute, concealed beneath the anterior margin of the thorax, which is produced, and semicircular: the *thorax* itself semioval, pubescent: *scutellum* minute, rounded: *elytra* ovate, slightly convex, the apex obtusely rounded, pubescent: *legs* slender, the posterior pair remote from the intermediate; *tarsi* slender, four-jointed, posterior with the terminal joint very long and curved.

The minute head of the insects of this genus, which is concealed beneath the thoracic shield, distinguishes it from *Clambus*, from which genus it also differs by its depressed body, triarticulate clava of the antennæ and semioval thorax; from *Sericoderus*, which has also the capitulum triarticulate, the rounded apex of the elytra removes it; and *Orthoperus* has the head minute, not concealed beneath the thorax, and a biarticulate capitulum. The only indigenous species is found beneath the bark of trees, &c.

Sp. 1. Cassidoides. *Piceus, thoracis margine pallido pellucido, antennis pedibusque ferrugineis.* (Long. corp. $\frac{1}{3}$ — $\frac{5}{12}$ lin.)

Der. Cassidoides. *Marsham.*—Cly. Cassidoides. *Steph. Catal. p. 71. No. 765*

Piceous, shining, impunctate; with the margins of the thorax pellucid and pale, the antennæ and legs ferruginous.

The thorax is sometimes entirely rufo-ferruginous, at others it has a dark centre; the margins of the elytra are occasionally paler than the disc; and in some examples the elytra are nearly piceous, with a rufescent patch on the hinder portion of the suture near the apex.

Not uncommon in the neighbourhood of London: frequently taken at Darenth-wood "Near Spitchweek and Ashburton, Devon."—*Dr. Leach*.



GENUS CXIV.—ORTHOPERUS * *miki*.

Trophu very minute. *Antennæ* short, rather slender, the two last joints forming the capitulum: *head* minute, narrow; not concealed beneath the thorax: *thorax* ample, subovate, slightly convex; the sides not much deflexed: *elytra* slightly convex, subovate, the apex somewhat truncate: *legs* slender, *tibiæ* simple; *tarsi* obscurely articulated.

The minute species of this genus may be known from those of the following, by the biarticulate capitulum of the antennæ; by which they may also be distinguished from *Trichopteryx* and *Atomaria*, in the next group, which they resemble by their minuteness: from *Clambus* their small narrow head discriminates them, as well as their somewhat depressed form, and their incapability of rolling themselves into a ball.

Sp. 1. *Punctum*. *Livido-testaceus, lævissimus, capite saturatiore, antennis pedibusque pallide testaceis.* (Long. corp. $\frac{5}{12}$ lin.)

Der. *Punctum*. *Marsham.*—Or. *Punctum*. *Steph. Catal. p. 71. No. 766.*

Slightly convex; livid-testaceous, very smooth, glabrous; the head rather piceous, eyes dusky: thorax glossy: elytra somewhat pale towards the apex: antennæ and legs pale testaceous.

The bright glossy testaceous colour of this species is its most striking character.

Found under rotten wood near London and in Suffolk.

Sp. 2. *picea*. *Piceo-testaceus, lævis, antennis pedibusque pallide testaceis.* (Long. corp. $\frac{1}{8}$ lin.)

Anis. *piceum*. *Kirby? MSS.*—Or. *picea*. *Steph. Catal. p. 71. No. 767.*

Upper surface of a glossy pitchy-testaceous, impunctate, the antennæ and legs entirely pale testaceous.

Differs from the last in being of a darker colour and rather larger; and from the next by having the antennæ and legs entirely testaceous.

Taken in the neighbourhood of Ipswich.

Sp. 3. *picatus*. *Piceus, lævissimus nitidissimus, antennarum basi palpisque rufis.* (Long. corp. $\frac{5}{12}$ lin.)

Der. *picatus*. *Marsham.*—Or. *picatus*. *Steph. Catal. p. 71. No. 768.*

Rather gibbous; piceous, very smooth and shining, with the base of the antennæ and the palpi rufous.

* *ὀρθός*, rectus; *πῆγας*, terminus.



Its smaller size and more elevated body distinguish this insect from the preceding and following, which it somewhat resembles in colour.

Found in Suffolk.

Sp. 4. truncatus. *Nigro-piceus, lævis, thoracis marginibus antennis pedibusque rufo-testaceis.* (Long. corp. $\frac{7}{12}$ — $\frac{1}{2}$ lin.)

Anis. truncatum. Kirby MSS.—Or. truncatus. Steph. Catal. p. 71. No. 769.

Somewhat depressed, smooth; pitchy-black, the thorax glossy, with its lateral margins, the antennæ, and legs testaceous-red; elytra distinctly truncate at the apex.

The pale margins to the thorax and more distinctly truncated elytra serve to discriminate this species from its congeners.

Found in Suffolk and near Bristol.

Sp. 5. nigrescens. *Piceo-niger, lævissimus, antennis pedibusque piceo-testaceis.* (Long. corp. $\frac{1}{4}$ lin.)

Or. nigrescens. Steph. Catal. p. 71. No. 770.

Deep pitchy-black, very smooth and glossy; the margins of the thorax concolorous: the antennæ and legs pitchy-testaceous.

Smaller, and of a much darker colour than either of the foregoing, and differs from the last in having the margins of the thorax concolorous.

Taken beneath rotten wood near London.

Sp. 6. Atomos. *Niger nitidus, antennis pedibusque piceis.* (Long. corp. $\frac{1}{4}$ lin.)

Or. Atomos. Kirby MSS.—Steph. Catal. p. 71. No. 771.

Very minute: smooth, black, shining, with the antennæ and legs piceous.

The smallest Rypophagous insect: known from the preceding by the greater intensity of its colours, and its minute bulk.

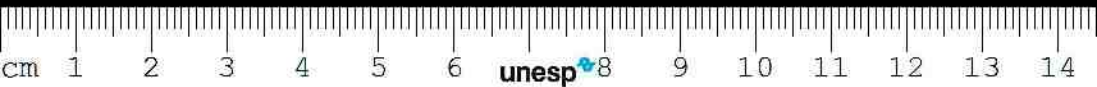
From the Marshamian cabinet:—taken, I believe, in Suffolk.

GENUS CXV.—SERICODERUS * *miki*.

Trophis very minute. Antennæ rather elongate, slender, the three last joints forming an elongate capitulum: head small, concealed beneath the anterior margin of the thorax, which is slightly produced: thorax sericeous, broad, subtriangular, the hinder angles somewhat acute: elytra sericeous, slightly gibbous anteriorly, a little depressed behind, the apex distinctly truncate: legs slender; tarsi obscurely articulated.

This genus is at once known from the rest of the family by its truncate elytra, combined with the triarticulated capitulum of its antennæ, minute head, and projecting anterior margin of the thorax, exclusively of other characters.

* Σηκινος, sericum; Δειν, collum.



Sp. 1. thoracicus. *Rufo-fuscus, thorace elytrorumque apicibus pallidis.* (Long. corp. $\frac{5}{8}$ — $\frac{1}{2}$ lin.)

Se. thoracicus. *Steph. Catal. p. 71. No. 772.*

Rufo-fuscous, slightly glossy, smooth, with the thorax and tips of the elytra pale, the former with a dusky spot on its anterior margin: antennæ and legs pale testaceous.

Taken occasionally in damp banks near London.

APPENDIX.

Page 1. BEMBIDIIDÆ. It may be added to the first paragraph that Latreille forms this family into a distinct section from the other geodephaga.

Page 6. TACHYS immunis. "Taken occasionally on Cardew-mire, near Dalston."—*T. C. Heysham, Esq.*

Page 6. TACHYS obtusus. "On the old course of the river Eden, below Botchardby."—*T. C. Heysham, Esq.*

Page 7. PHILOCHTHUS æneus. "Under rejectamenta, on the coast, Burgh-marsh."—*T. C. Heysham, Esq.*

Page 8. PHILOCHTHUS subfenestratus. "Salt-marsh, below Rockcliff."—*T. C. Heysham, Esq.*

Page 8. PHILOCHTHUS biguttatus. "Cardew-mire, Dalston."—*T. C. Heysham, Esq.* "Devonshire, 1828."—*Messrs. Chant and Bentley.*

Page 9. PHILOCHTHUS guttula. "On the banks of the Eden, near Richardby."—*T. C. Heysham, Esq.*

Page 10. OCYS currens. "Devonshire."—*T. Marshall, Esq.*

Page 10. OCYS melanocephalus. "Pembrokeshire, 1829."—*Captain Blomer.* "Under the bark of decayed trees on the banks of the Eden, near Corbycastle, Richardby, &c.; and on the Caldew, near Dalston Hale."—*T. C. Heysham, Esq.*

Page 11. OCYS tempestivus. "Devonshire."—*Mr. Chant.* "Cambridge."—*C. Darwin, Esq.*

Page 12. PERYPHUS femoralis. "Near Belchardley, Cardew-mire, &c."—*T. C. Heysham, Esq.*

Page 12. PERYPHUS concinnus. "Devonshire."—*Messrs. Chant and Bentley.* "On the coast, Drumburgh-marsh."—*T. C. Heysham, Esq.*

Page 12. PERYPHUS saxatilis. "Banks of the Eden, near Beaumont."—*T. C. Heysham, Esq.*

— Sp. *PERYPHUS albipes*. *Æneo-viridis nitidus, antennis rufescentibus, pedibus pallidis*. (Long. corp. 2 lin.)

Be. albipes. *Sturm*?—Pe. assimilis. *Steph. Nom.* 4.

Above of a rich shining brassy green: mouth pitchy: palpi dusky: antennæ rufescent, with the terminal joints dusky: thorax with a faint dorsal channel and a deep fovea on each of the hinder angles: elytra, with the suture, rather piceous; the disc brassy green; rather deeply punctate striate, the striæ fainter on the sides, and reaching to the apex of the elytra: legs very pale testaceous.

I possess specimens of this insect from the north of England, but I am not positive of its identity with the Pe. assimilis of Mr. Heysham's MSS., not having a typical example to guide me.

Page 13. *PERYPHUS rupestris*. "On the banks of the Esk, near James-town."
—*T. C. Heysham, Esq.*

Page 14. *PERYPHUS ustus*?—"Rare: only two specimens taken in June, 1828, near Sandsfield."—*T. C. Heysham, Esq.*

Page 14. *PERYPHUS nitidulus*. "Devonshire."—*Mr. Chant.*

Page 15. *PERYPHUS viridi-æneus*. "Banks of the Esk, near Moss-land."—*T. C. Heysham, Esq.*

Page 15. *PERYPHUS tibialis*. "Rather common on the banks of the Eden and the Esk."—*T. C. Heysham, Esq.* "Devonshire."—*Mr. Chant.*

Page 17. *PERYPHUS atro-cæruleus*. "Devonshire."—*Messrs. Chant and Bentley.*
"On gravel-beds on the Caldew, near Long Island and Cummersdale."—*T. C. Heysham, Esq.*

— I regret being compelled to remain silent regarding *Peryphus viridis*, *Heysham MSS.*, of which two examples were taken by that gentleman recently near Carlisle, which I have not seen.

Page 24. *LOPHA pulicaria*. "Drumburgh-marsh, under rejectamenta."—*T. C. Heysham, Esq.*

Page 28. *TACHYPUS bipunctatus*. "Common on the banks of the Esk, below the iron bridge at Garries-town."

Page 28. *TACHYPUS striatus*. "This species has only occurred to me very sparingly: I have taken solitary specimens on the banks of the Eden near Allerby and Kinggarth, and on the Caldew in Denton Holme."—*T. C. Heysham, Esq.* "Devonshire, in July, 1828."—*Messrs. Bentley and Chant.*

Page 30. *BEMBIDIUM paludosum*. "Sheffield, August 15, 1828. It is not uncommon in Lancashire, where it is taken by Mr. Hobson."—*Rev. F. W. Hope*; who kindly furnished me with this species. "But once met with on the western extremity of Cardew-mire, in July, 1828."—*T. C. Heysham, Esq.*

Page 30. *BEMBIDIUM flavipes*. "Devonshire."—*T. Marshall, Esq.* "Rock-cliff, Cardew-mire, and Moss-land."—*T. C. Heysham, Esq.*

Page 32. Sp. 1. *NOTIOPHILUS aquaticus*. This species may be known by the striæ on the elytra being rather distant, faint, and not reaching to the apex;



the elytra of an uniform tint; the disc of the thorax smooth; the legs usually deep bronzed-black, with the tibiæ slightly rufescent.

"Common near Newcastle."—*G. Wailes, Esq.*

† Sp. 2. *NOTIOPHILUS rufipes*. *Curtis*, v. pl. 248.—*Cupreus, capite latissimo, fronte profundè striato, elytrorum apice pallescente, antennarum basi pedibusque pallide ferrugineis*. (Long. corp. $2\frac{1}{2}$ lin.)

Above glossy cupreous: head very broad, the forehead very deeply sulcated: thorax rather narrower than the head, the margins very deeply and coarsely punctured, the disc smooth, with the dorsal channel transversely wrinkled; on each hinder angle is a very deep fovea: elytra very smooth, with an abbreviated punctate stria near the scutellum, a rather faint one on each side of the suture, and six very deeply punctate ones closely approximating to each other towards the outer margin, which is smooth; these striæ reach to the apex, which is obscurely paler than the rest of the elytra: legs bright ferruginous: base of antennæ the same, the apex dusky.

"Only a single specimen has occurred to me, taken on the south side of Tarn Wadling, High Hesket."—*T. C. Heysham, Esq.* "Devonshire, 1828."—*Messrs. Bentley and Chant.*

Page 33. Sp. 3. *NOTIOPHILUS biguttatus*. This differs from the following in wanting the second dorsal impression between the second and third striæ.

"Extremely common at Marton Lodge."—*L. Rudd, Esq.* "Not very common in Hants and Wilts."—*Rev. G. T. Rudd.* "Common at Newcastle."—*G. Wailes, Esq.*

† Sp. 4. *NOTIOPHILUS quadripunctatus*. *De Jean*.—*Cupreus, capite angusto, elytris tenuè punctato-striatis, plaga longitudinali nitidissimâ, punctis tribus impressis inter striam secundam et tertiam*. (Long. corp. 2 lin.)

Of a bright shining copper: head narrow, forehead moderately sulcated: thorax with the margins punctate, the disc transversely, but faintly, rugose: elytra rather faintly punctate-striated, the striæ as in the foregoing species, and between the second and third two deep impressions on the back, and one towards the apex, which is pale yellowish: base of the antennæ and of the tibiæ somewhat pale.

"A solitary specimen taken near the Canal reservoir."—*T. C. Heysham, Esq.* The impressed dots on the elytra differ on the two sides; whether this or *No. rufipes* be truly distinct from the other species, time alone can decide;—they appear different, Mr. Heysham having kindly sent me his specimens for examination: and I have observed other examples in collections which also seem to differ from either of the above, but time has not permitted me to investigate them properly.

Page 33. *ELAPHRUS uliginosus*. "Cambridge, in plenty, 1829."—*C. Darwin, Esq.* "Not uncommon, but local at Fyfield, Hants; the only species hitherto detected by me at Kimpton."—*Rev. G. T. Rudd.*

Page 34. *ELAPHRUS cupreus*. "Very abundant at the sides of ponds, at Marton Lodge, Yorkshire."—*L. Rudd, Esq.* "Newcastle."—*G. Wailes, Esq.*



- Page 35. *ELAPHRUS riparius*. "Found with the last, common."—*L. Rudd, Esq.* "Abundant on the north side of Tarn Wadling."—*T. C. Heysham, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 36. *BLETHISA multipunctata*. "In great abundance near Cambridge, in 1829."—*C. Darwin, Esq.* "Prestwick Car, common."—*G. Wailes, Esq.*
- Page 39. *HALIPLUS elevatus*. "Sparingly in a water meadow, Thruxton, Hants."—*Rev. G. T. Rudd.* "Near Cambridge, 1829."—*C. Darwin, Esq.*
- Page 40. *HALIPLUS ferrugineus*. "Not common, Marton Lodge, Yorkshire."—*L. Rudd, Esq.* "Scarce near Kimpton."—*Rev. G. T. Rudd.* "Ditches near Cardew-mire."—*T. C. Heysham, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 41. *HALIPLUS obliquus*. "More plentiful than the last, but somewhat scarce at Kimpton: very common at Winterborne Stoke."—*Rev. G. T. Rudd.* "The neighbourhood of Marton Lodge, but very rare."—*L. Rudd, Esq.* "Wimbledon-common."—*Mr. G. Waterhouse.* "Newcastle."—*G. Wailes, Esq.*
- Page 41. *HALIPLUS lineato-collis*. "Plentiful at Kimpton, in gravelly streams in the spring."—*Rev. G. T. Rudd.* "Not uncommon in Yorkshire."—*L. Rudd, Esq.* "Cardew-mire."—*T. C. Heysham, Esq.*
- Page 42. *HALIPLUS ruficollis*. "Common in Yorkshire."—*L. Rudd, Esq.* "Kimpton."—*Rev. G. T. Rudd.*
- Page 43. *HALIPLUS affinis*. "Abundant in a water meadow between Monxton and Abbot's Ann, in October, 1828, but not hitherto found elsewhere in this district."—*Rev. G. T. Rudd, Kimpton.* "Newcastle."—*G. Wailes, Esq.*
- Page 44. *PÆLOBIUS Hermanni*. "In a pond on Park-house Hill, between Andover and Amesbury."—*Rev. G. T. Rudd.* "Once near Newcastle, by Mr. Hewitson."—*G. Wailes, Esq.*
- Page 45. *HYPHIDRUS ovatus*. "Common near Marton Lodge, Yorkshire;—the males in the proportion of 5 to 1."—*L. Rudd, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 47. *HYGROTUS confluentis*. "In profusion near Kimpton."—*Rev. G. T. Rudd.* "Not common near Marton."—*L. Rudd, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 48. *HYGROTUS inæqualis*. "Common in ponds at Weyhill, and in turfpits at Abbot's Ann."—*Rev. G. T. Rudd.* "Scarce near Marton."—*L. Rudd, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 49. *HYGROTUS scitulus*. "Common in Yorkshire."—*L. Rudd, Esq.* "Not yet found near Kimpton."—*Rev. G. T. Rudd.* "Near Cambridge."—*C. Darwin, Esq.*
- Page 49. *HYGROTUS pictus*. "In profusion near Winterborne Stoke."—*Rev. G. T. Rudd.* "Not uncommon in Yorkshire."—*L. Rudd, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 50. *HYDROPHORUS Frater*. "Very sparingly near Marton Lodge."—*L. Rudd, Esq.*



Page 51. *HYDROFORUS areolatus*. "Cambridge."—*C. Darwin, Esq.*

Page 51. *HYDROFORUS depressus*. "In the utmost profusion in the large water meadow between Winterborne Stoke, and Berwick St. James, Wilts, Oct. 1828:—plentiful between Monxton and Abbot's Ann, Hants."—*Rev. G. T. Rudd*. "Common near Marton Lodge, Yorkshire."—*L. Rudd, Esq.*

Page 51. *HYDROFORUS 12-punctatus*. "Very rare near Kimpton."—*Rev. G. T. Rudd*. "Not common, Marton Lodge."—*L. Rudd*. "Newcastle."—*G. Wailes, Esq.*

Page 51.† Sp. 6.* *HYDROFORUS 9-lineatus*. *Supra pallide testaceus capite saturiore subtus niger, macula thoracis rhombea, elytrorum basi sutura lineisque quatuor nigris.* (Long. corp. 2 lin.)

Hyd. 9-lineatus. *Rudd MSS.* Much smaller than *Hy. nigrolineatus*, which it somewhat resembles: the upper surface is pale testaceous, the head rather fulvous: on the disc of the thorax is a black rhomboid spot: elytra pale, with the suture and four distinct lines black, united at the base by a transverse streak of the same, and continued to the apex of the elytra, where the black suture and the second streak are united by a transverse narrow black line; the external line is remote from the margin, and is dilated towards its apex; body beneath black; legs pale testaceous.

"Two specimens only, one of which escaped by accident, found in the flooded gravel-pits, Weyhill, end of October, 1828."—*Rev. G. T. Rudd*.

Page 52. *HYDROFORUS lineatus*. "Southend, 1829, in great profusion."—*Rev. F. W. Hope*.

Page 53. *HYDROFORUS picipes*. "Scarce, in the gravel-pits at Weyhill."—*Rev. G. T. Rudd*. "Southend, 1829, in very great abundance."—*Rev. F. W. Hope*.

Page 53. Sp. 10.* *HYDROFORUS latus*. *Ovatus, brevis, niger, vagè punctatus, capite posticè elytrorum basi antennæ pedibusque picco-ferrugineis.* (Long. corp. $2\frac{1}{4}$ lin.)

Short, ovate, very broad: obscure black: head punctured, with the vertex transversely ferruginous: thorax with its lateral margins slightly ferruginous: the disc irregularly covered with impressed dots, with an obsolete transverse elevation: elytra with the base transversely pitchy-ferruginous: the disc irregularly and thickly punctured throughout, the lateral margins piceous: legs and antennæ rusty-piceous: body obscure black beneath.

"Marton Lodge, Yorkshire."—*L. Rudd, Esq.*—Communicated to me by my friend the *Rev. G. T. Rudd*:—whether the insect be the same as the *Hydroforus latus* of *Curtis* I am not positive, having seen but the *one specimen* here described, which was taken last autumn. When my Nomenclature was printing, I conceived that it was synonymous with *Hy. opatrinus*, but upon comparison the difference was very obvious.

Page 53.† Sp. 10.** *HYDROFORUS opatrinus*. *Oblongo-ovatus ater, subpubescens, obscure punctatus, antennæ pedibusque piceis.* (Long. corp. $2\frac{3}{4}$ lin.)

Hyd. opatrinus. *De Jean?*—*Steph. Nomenclature*, p. 4.

Somewhat resembling Hy. dorsalis; but of rather a different form: deep black, slightly pubescent; the thorax somewhat cordate; with a bent transverse impression, the margins punctured; elytra oblong-ovate, with irregular punctures on the disc, which has several slightly elevated costæ: legs and antennæ pitchy-black, the latter palest. "Netley, Salop."—*Rev. F. W. Hope*.

Page 56. HYDROFORUS deplanatus. "Oxford."—*Rev. F. W. Hope*.

Page 56. Sp. 18.* HYDROFORUS ferrugineus. *Depressus picco-ferrugineus, thoracis margine laterali rufo subdilatato, elytris planis, tenuè punctatis, piceis basi apiceque pallidioribus.* (Long. corp. 2 lin.)

Hydroporus ferrugineus. *Rudd, MSS.*—*Steph. Nomenclature*, p. 4. Depressed; of a deep pitchy ferruginous, the head and thorax brightest, the margins of the latter somewhat dilated and rufous, the disc smooth; the anterior margin with a faint series of impressed dots, and the hinder margin with a curved thickly punctured impression: elytra much depressed, piceous, with the base irregularly testaceous, and the apex pale; the disc regularly but not very deeply punctate throughout, with two longitudinal striæ of deeper impressions: body beneath black, antennæ and legs ferruginous; hinder tarsi very long. "Near Collingbourne-wood; once in 1828, and several in a stream at Kimpton during last spring."—*Rev. G. T. Rudd*.

Page 58. HYDROFORUS geminus. "Not plentiful, in the gravel-pit at Appleshaw: Oct. 1828."—*Rev. G. T. Rudd*.

Page 58. HYDROFORUS granularis. "Somewhat common at Weyhill, and in a new-made pond at Fyfield."—*Rev. G. T. Rudd*. "Cardew-mire."—*T. C. Heysham, Esq.*

Page 58. HYDROFORUS ovalis. "Marton Lodge, Yorkshire."—*L. Rudd, Esq.* "Not hitherto found near Kimpton."—*Rev. G. T. Rudd*.

Page 60. HYDROFORUS melanocephalus. "Common every where in Hants and Wilts."—*Rev. G. T. Rudd*. "In Yorkshire."—*L. Rudd, Esq.*

Page 60. HYDROFORUS erythrocephalus. "Same as the last, abundantly."—*Rev. G. T. Rudd*.

Page 61. HYDROFORUS holosericeus. "With the preceding, abundantly."—*Rev. G. T. Rudd*.

Page 61. HYDROFORUS pubescens. "Common at Weyhill."—*Rev. G. T. Rudd*.

Page 64. LACCOPHILUS minutus. "Common at Marton."—*L. Rudd, Esq.*

Page 64. LACCOPHILUS interruptus. "Very abundant at Weyhill."—*Rev. G. T. Rudd*. "Newcastle."—*G. Wailes, Esq.*

Page 66. COLYMBETES guttatus. "In streams near Kimpton."—*Rev. G. T. Rudd*. "Cardew-mire."—*T. C. Heysham, Esq.* "Newcastle."—*G. Wailes, Esq.*

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- Page 106. *ELMIS* Volkmar. "Manchester."—*Rev. F. W. Hope.*
 Page 108. *ELMIS* parallelipedus. "Manchester."—*Rev. F. W. Hope.*
 Page 108. *ELMIS* æneus. "In a ditch on Menyanthis trifoliata, near Abbot's Ann."—*Rev. G. T. Rudd.*

GENUS XCV. b.—*ENICOCERUS mihi.*

Palpi short; *maxillary* rather stout; the basal joint more slender than the following, which is somewhat clavate, tumid, with the apex obtuse. *Antennæ* with the basal joint elongate, slightly bent, incrassated at the apex; second joint short, somewhat quadrate: third large, cup-shaped; fourth minute, subglobose, two following gradually larger, the remainder forming an elongate five-jointed club, the first joint of which is large, subglobose, the two following smaller and of equal size; the next large, transverse, the terminal one small, semioval, obtuse: *head* triangular: *eyes* slightly prominent: *thorax* subcordate: *elytra* broad, depressed: *legs* moderate; *tarsi* with large claws.

The singular structure of the antennæ of this remarkable genus, with its broad, somewhat depressed body, large claws and abbreviated palpi well distinguish it from others of the Helophoridæ, to which family it appears to belong.

- Sp. 1. *ENICOCERUS viridiæneus*. PLATE XV. f. 6. *Steph. Nomenclature*, p. 5.
 —*Viridi-æneus, nitens*; *pedibus nigro-piceis geniculis tarsisque nigris, antennis pallidis*. (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Above of a rich shining green: head with a transverse frontal channel, and two deep impressions on the vertex: thorax with its lateral margin much dilated anteriorly, the disc somewhat convex, with a dorsal channel, and an oblique deeper groove on each posterior angle; the anterior angle depressed, slightly punctate: elytra very deeply punctate-striate; beneath black; legs dusky piceous, with the joints and tarsi sometimes black.

The accompanying figure of this singular insect will sufficiently illustrate its peculiar characters: the insect was taken at "Hebden-bridge, Yorkshire, in October 1828."—*Mr. Gibson*; to whom I am indebted for my specimens.

- Page 112. *HELOPHORUS griseus*. "Marton Lodge."—*L. Rudd, Esq.* "Common at Hants."—*Rev. G. T. Rudd.* "Scotland."—*Rev. F. W. Hope.*

- Page 112. *HELOPHORUS dorsalis*. "Marton Lodge, uncommon."—*L. Rudd, Esq.* "Frequent near Kimpton."—*Rev. G. T. Rudd.* "Wimbledon-common, in 1829."—*Mr. Waterhouse.*

- Page 113. Place division B, above *HELOPHORUS tuberculatus*.

- Page 113. *HELOPHORUS fennicus*. "Cardew-mire."—*T. C. Heysham, Esq.*

- Page 114. *HELOPHORUS nubilus*. "Cardew-mire."—*T. C. Heysham, Esq.*

- Page 117.† Sp. 10. *OCHTHEBIUS hibernicus*. *Cupreus, subpubescens, capite trifoveolato*. (Long. corp. 1 lin.)

Ochthebius hibernicus. *Curtis*, vi. pl. 250.—"Dull cupreous, sometimes inclining to black; sparingly covered with long whitish hairs: palpi and antennæ ochraceous, rather fuscous at their tips. Head and thorax punctured, the



former with three foveæ on the crown, one close to the base; the latter with the anterior margins and the posterior angles membranous and transparent; a deep channel between two long foveæ on the back, and a large depression on each of the angles. Elytra not striated, but covered with large deep punctures, appearing rather regular under a weak lens, but scattered under a high power; legs ferruginous, the tarsi piceous at their tips."—*Curtis. l. c.*

Taken at Belfast in Ireland, by Mr. Haliday.

Page 121. *LIMNEBIUS picinus*. "Wimbledon-common."—*Mr. Waterhouse*.

Page 122. *LIMNEBIUS nitidus*. "Wimbledon-common."—*Mr. Waterhouse*.

Page 122. *HYDROBUS piceus*. "Newcastle."—*G. Wailes, Esq.*

Page 127. *HYDROBIUS picipes*.—*Hydrobius chalconotus*. *Curtis, vi. pl.*

Page 135. *HYDROBIUS æneus*. "Wimbledon-common in April last, several specimens."—*Mr. Waterhouse*.

Page 137. *CERCYON littorale*. "Beneath rejectamenta, Sidmouth, 1828."—*T. Marshall, Esq.*

Page 154. *SPHÆRIDIDIUM Scarabæoides*. "Met with occasionally in the wood near Black Hale, and Great Orton."—*T. C. Heysham, Esq.*

Page 155. *SPHÆRIDIDIUM bipunctatum*. "Rockliff-moss."—*T. C. Heysham, Esq.*

Page 157. *ANISOTOMIDÆ*. An inspection of Paykul's *Fauna Suecica*, vol. iii. p. 435—437. (published in 1800), Fabricius's *Systema Eleutheratorum*, vol. i. p. 92—106. (published in 1801), or Schonherr's *Synonymia Insectorum*, vol. i. p. 100—109. (published in 1806), while it tends to show the opinions of those writers upon the evident affinity between the various members of this group, as quoted in the synonyms to my Catalogue, will at the same time exemplify the *originality* of Sturm's arrangement, published in 1807, and the historical correctness of those who, in order to oppugn particular views, care not how far they mislead their readers. Sturm's arrangement in this, as in other places, being merely a copy of that of the *Systema Eleutheratorum*, with the adoption of some few genera, proposed subsequently to the publication of that work.

Page 159. *PHALACRUS maritimus*. Upon a re-examination of this insect I have my doubts whether it be placed in its proper location; as in many points it approximates to the Byrrhidæ, though in others it departs therefrom.

Page 168. *EPHISTEMUS Gyrinoides*. "Abundant in wood, fresh from the saw-pit."—*Rev. F. W. Hope*.

Page 169. *EPHISTEMUS confinis*. "Old Brompton, several specimens, in 1829."—*Mr. Waterhouse*.

Page 171. For *LEIODES brunnea*, read *Le. Gyllenhalii*; and page 175, for *LEIODES Sturmii*, read *Le. brunnea*: the description, &c. of Sturm having appeared in 1807, and that of Gyllenhal in 1810.

*** I have recently obtained several evidently distinct species of *Hydræna*, *Hydrobius*, &c.; as well as of *Hydradephaga* and *Bembidiidæ*, which, from want of time, it is impossible for me to introduce into the present Appendix.



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ERRATA.

- Page 52, line 23, for *striæ*, read *stria*.
 64, — 14, for *Haliplus*, read *Haliplus*.
 75, — 4, for *above*, read *alone*.
 87, — 40, for *Abrens*, read *Ahrens*.
 91, — 24, for *tarsi*, read *tibia*.
 96, — 30, for Plate XIII. f. 1., read Plate XIII. f. 2.
 97, — 27, for Plate XIII. f. 2., read Plate XIII. f. 1.
 114, — 10, for *apical*, read *apical*.
 117, — 16, for *Degean*, read *De Jean*.
 121, — 1, 3, for *nigricans*, read *nigrinus*.
 137, — 35, for *Nothiophili*, read *Notiophili*.
 138, — 17, for *immaculate*, read *immature*.
 148, — 3, for *nigris*, read *rufis*.
 159, — 1, for *maxillæ*, read *mandibles*.
 —, — 34, 35, for *in*, read *on*.
 162, — 39, for *Mrs.*, read *Mrs.*
 170, — 27, for *gloss*, read *glass*.
 —, — 33, for *three*, read *the*.

END OF VOL. II.

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